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ABSTRACT

Designed to help school food service personnel, teachers, aides, and volunteers extend the benefits of the school meal program to handicapped children, this manual discusses eating problems resulting from such conditions as cerebral palsy, mental retardation, blindness, orthopedic handicaps, and other health impairments. Specific recommendations are made in the areas of (1) helping school food service personnel modify school menus, (2) modifying the cafeteria setting, (3) providing staffing and inservice training, and (4) using special food service equipment such as spoons with curved handles, dishes with sloping sides, and modified drinking utensils. In addition, guidelines for classroom teachers, aides, and volunteers are provided for assessing eating skills, creating a successful mealtime environment, teaching eating skills, and dealing with conditions related to handicaps such as obesity, low body weight, and drug effects. Ideas for teaching nutrition to handicapped children are offered, and guides for informing parents about proper feeding techniques for their children are provided in both English and Spanish. Other resources provided in the manual include a list of related agencies, a glossary of terms, and selected references. (RH)

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SCHOOL NUTRITION AND FOOD SERVICE TECHNIQUES

FOR CHILDREN WITH EXCEPTIONAL NEEDS

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Guidelines for Food Service Personnel, Teachers, Aides, Volunteers, and Parents

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SCHOOL NUTRITION AND FOOD SERVICE TECHNIQUES
FOR CHILDREN WITH EXCEPTIONAL NEEDS

Guidelines for Food Service Personnel, Teachers, Aides, Volunteers, and Parents

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Office of Child Nutrition Services
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Preface

The Education for All Handicapped Children Act, Public Law 94-142, required public schools to provide the least restrictive educational setting for all handicapped children. Consequently, more handicapped children are being integrated into the general school environment and, therefore, into the school meal programs. Educators and school food service personnel need to understand the handicapping conditions that may affect a child's eating habits, and they need to be able to adapt the school services provided so the benefits of the school meal program can be extended to enrolled handicapped children. When teachers, aides, volunteers, food service personnel, and parents address the mealtime needs of the exceptional child, the child can derive the same nutritional and social benefits from the school breakfast and lunch programs as the nonhandicapped child does. This manual is dedicated to the "special children" and to the "special people" who serve them.

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and Nutrition Services

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CHAPTER I

OVERVIEW

This manual is designed to enable school food service personnel, teachers, aides, and volunteers to extend the benefits of the school meal program to handicapped children. The specific objectives of this manual are:

1. To enable the school food service personnel to modify the food and the service of the school breakfast and lunch to meet the needs of the handicapped students.
2. To help classroom teachers, aides, and volunteers develop techniques for assessment and instruction which will enable each student to develop independent eating skills.
3. To foster the development of a team approach among the school staff, medical professionals, parents, and students.
4. To encourage the team to develop for each handicapped child an individual education program that teaches a progression of independent eating skills.
5. To provide a useful list of the resources that are available to people who work with exceptional children at mealtime.

The Education for All Handicapped Children Act, Public Law 94-142, mandates that public schools provide appropriate education in the least restrictive setting for all handicapped children, ages three through twenty-one years. As a result of this legislation, many handicapped children are now being educated in the general school environment. This manual has been designed to help school staff members assist the handicapped child's participation in the school meal program, thus enabling all students to receive the benefits of good nutrition.

Although schools are not required to provide special diets for any students, school districts that have to meet the nutritional needs of their handicapped children can do so, and, if state and federal requirements for the meals are met, the meals may be claimed for reimbursement from the child nutrition program. School food service personnel and educators are not responsible for diagnosing or treating a child's handicap; however, they should understand the handicapping conditions that may affect a child's eating habits.

Regardless of the handicapping conditon, children with exceptional needs are entitled to an appetizing, nutritious diet. The staff should, therefore, try to serve good tasting and colorful meals to every child who cannot eat the regular school lunch items. If they succeed in doing so, then perhaps quotations such as the following one will no longer be representative of the handicapped child's point of view:

> I like my teacher and the other people at school. They are all very nice to me. But I wish they knew how hard some things are for me. Eating is one of the hardest. I can't control my awkward movements and some of the other things I do. I can't hold my head up, which makes it difficult to swallow and causes me to drool a lot. I can't chew very well, so I gag on many foods that people try to feed me. My lips are very sensitive, and I don't like people to touch me on my face.
>
> Today for lunch the other children have hot turkey sandwiches, carrot sticks, salad, and peaches. My lunch, as usual, is lukewarm, and everything is pureed: pureed turkey, pureed bread, pureed salad, and that same old applesauce. It all looks and tastes the same.

Serving a handicapped child a meal he or she cannot eat or does not want to eat results in frustration on the part of the child, wasted food, and a corresponding lack of nutrition. Even though offering meal service to children with special needs may involve some changes in the physical setup of the cafeteria and the menu, as discussed in Chapter II, the school staff can prepare suitable meals with a minimum of extra time and money.

This manual discusses eating problems resulting from such conditions as cerebral palsy, mental retardation, blindness, orthopedic handicaps, and other health impairments, each of which may affect individual children differently. Table I-1 outlines the relationships between physical handicaps and eating problems, which the school staff may solve by using some of the techniques that are discussed in Chapter III.

Table I-1

Handicaps and Related Eating Problems

1. *Getting Food into Mouth*	Small oral cavity
	*Rooting reflex
	Sensitivity to touch
	Large tongue
	*Tongue-thrust
2. *Problems in Sucking*	*Tongue-thrust
	Weak muscles
	Hyperactive gag reflex
	Delayed reflexes
3. *Problems in Chewing*	Malformed jaw
	Malformed teeth
	Poor control of jaw muscles
	Poor control of tongue
4. *Control of Eating Utensils*	Deformity
	Loss of limb
	Visual defects
	Weak muscles
	Poor muscle control
	Uncontrollable movements
	*Spasticity

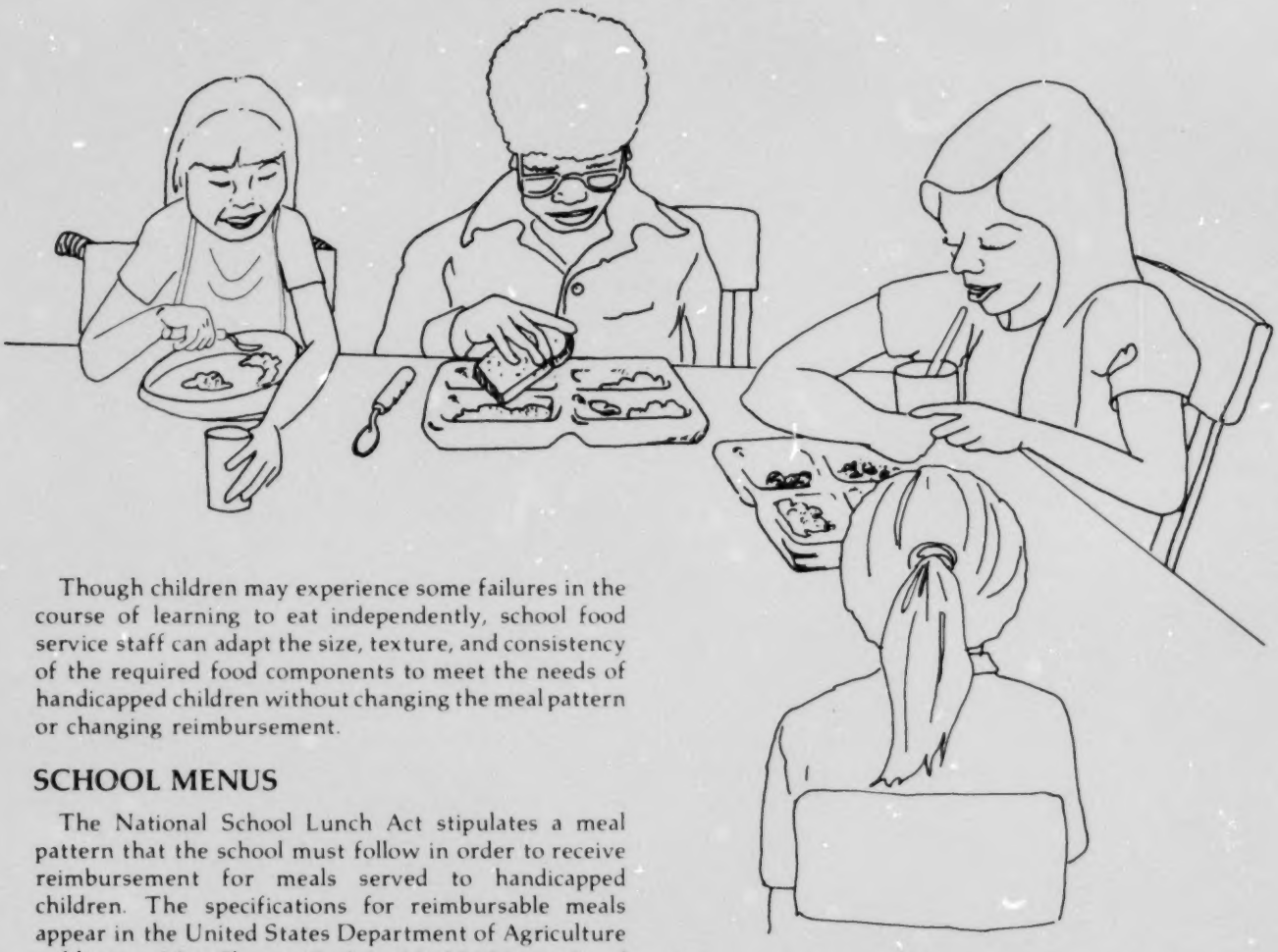
*Definitions found in Glossary on page 50.

The recommendations and suggestions in this manual are based on the most common types of eating problems. Many exceptional children, especially those with physical handicaps, are already receiving the services of physical, speech, and/or occupational therapists, all of whom should be involved in evaluating the eating program developed for the child. School staff should work with these professionals to determine the kind and extent of changes needed in the menu and/or eating utensils.

All people who deal with handicapped children should make every effort to encourage them to develop normal eating habits since the goal of educating and working with these children is to make them as independent as possible in their daily lives. However, the staff should realize that some children will never be able to feed themselves.

CHAPTER II

RECOMMENDATIONS FOR SCHOOL FOOD SERVICE



Though children may experience some failures in the course of learning to eat independently, school food service staff can adapt the size, texture, and consistency of the required food components to meet the needs of handicapped children without changing the meal pattern or changing reimbursement.

SCHOOL MENUS

The National School Lunch Act stipulates a meal pattern that the school must follow in order to receive reimbursement for meals served to handicapped children. The specifications for reimbursable meals appear in the United States Department of Agriculture publication *Menu Planning Guide for School Food Service*. Local school districts should have a copy of this guide; if they do not, they can obtain it from the Office of Child Nutrition Services, Department of Education.* The staff should realize that physical changes in the size, texture, (see Table II-1), and consistency of the food do not change the meal pattern or affect reimbursability.

Independent Eating

Children who have difficulty feeding themselves may need to have their food modified since the consistency of the food affects their ability to get food from the plate onto a spoon and up to the mouth. Slippery foods, such as gelatin, and thin, runny foods, like soups, are particularly difficult for children to handle. Foods that adhere to the spoon, such as hamburger casseroles, mashed potatoes, refried beans, applesauce, pudding, and creamy yogurt, are easier to eat. Because tiny food pieces like rice or peas are difficult for a child to get onto a spoon, they should be mixed with sauces or foods like mashed potatoes.

Since finger foods are easy for a child to handle, they should be served often. These foods not only encourage hand-to-mouth coordination but also prove less frustrating for the child to eat than food requiring utensils. Some excellent choices are finger sandwiches, cheese slices, soft cooked vegetables, sliced fruit, firm gelatin squares, cereal bars, frozen juice bars, and nutritious cookies. In making decisions regarding food consistency, the staff should consult the child's teacher or a speech or occupational therapist for information about each child's level of abilities.

The level of the child's eating ability is also a determining factor in the selection of the form of the food served. Children who have been bottle-fed formula or spoon-fed pureed food since birth have not developed sufficient chewing skills and should not be served hard food like a taco or celery sticks. Children who choke on small hard pieces of food may also require only soft foods until they are able to learn proper swallowing techniques and are able to control their gag reflexes. Foods that have

*See References for address.

more than one texture are difficult for some children to control in the mouth. Such foods should be gradually introduced into the children's diet.

Pureed Foods

Children should gradually progress from drinking a liquid meal to eating a more textured diet. Foods with some texture encourage chewing, which, in turn, aids in the development of the muscles needed for speech. Though some children may need a pureed diet for an extended time, such foods should be served only to children who have not progressed or are unable to progress to chewing their food. Eating skills, like other skills, can be improved with practice.

Regular and Soft-Food Menus

Besides offering a regular menu, most schools can also provide a soft-food menu because it generally necessitates making only small changes in the size or consistency of the regular menu items. A soft-food item is NOT a pureed taco; instead the taco meat should be mixed with refried beans and sauce, with soft bread served on the side. It may be yesterday's or today's regular entree served in a casserole, in a main dish salad, or as a sandwich filling without lettuce or celery. Soft foods, such as cottage cheese, cooked dried beans, and cheese, are low cost sources of protein that may be substituted for a meat entree.

Although the regular and soft-food items can often be the same, the staff should find substitutions for very hard foods, such as serving sliced fruit instead of vegetable sticks, or soft bread in place of French rolls. Other examples of substitutions are given in Tables II-2 and II-3 on pages 7 through 10. Often, the staff needs only to set aside portions of the regular menu items to be cut or chopped into smaller pieces for inclusion in the soft-food menu. Ordinary table foods should be used whenever practical, with as few substitutions or changes in preparation as possible.

Menu Suggestions

The following is a sample school lunch menu:

Sample of School Lunch Menu Alteration

Components	Regular	Soft	Pureed
Meat or Meat Alternate	Roast Turkey with Gravy	Roast Turkey, Chopped	Turkey, Pureed
Vegetable	Green Beans, Cooked	Green Beans, Cooked Soft	Green Beans, Pureed
Fruit	Peaches	Peaches, Chopped	Peaches, Pureed
Bread or Bread Alternate	Rice	Rice with Gravy	Rice, Pureed with Gravy
Milk	Milk	Milk	Milk

Nutrition

All menus planned for students should be nutritious and well-balanced to increase the children's ability to resist disease and to enhance their general physical and mental well-being. Although fresh, unprocessed foods are usually the most nutritious to serve, some processing is often necessary for the sake of convenience in preparation, food safety, and storage. The staff should compare cost (including labor) and nutrient content when choosing food items, such as fresh, frozen, or canned vegetables. Excess sugar, for example, can be eliminated by serving fresh or water-packed fruit instead of fruit canned in heavy syrup. Using fruit juice rather than juice drinks with added sugar increases the nutritive value of the meal. The staff should serve whole grain breads and cereals whenever practical.

Handicapped children, like other children, have likes, dislikes, feelings, and sensory preferences. Because they, too, prefer tasty, appetizing foods, their food items should be just as colorful and appealing as those on the regular menu. Gray carrots or pureed tacos wouldn't stimulate anyone's appetite. Nor are fish sticks, French fries, creamed corn, and applesauce attractive together on a plate, because they lack color contrast. Efforts to improve visual appeal can make the meals appetizing and help reduce the amount of food wasted.

AIDS FOR SCHOOL FOOD SERVICE PERSONNEL

Menu modifications may be necessary to help the handicapped students maintain optimal nutritional status while they are working toward the goal of independent eating. The tables which follow are guides to assist school food service personnel in making necessary changes in the form of the food served.

Progressive Food Texture Guide

The progressive food texture guide (Table II-1) on page 5 illustrates food textures appropriate for various levels of independent eating skills, as assessed by the teacher or an occupational therapist. Using this guide, the cafeteria manager, teachers, therapists, and aides should work together in planning appropriate meals for handicapped children.

Menu Components

The menu suggestions on pages 7 through 10 illustrate modifications necessary for soft diet changes, which can be used to plan breakfasts, lunches, and snacks that meet the needs of children with eating problems.

Table II-1

Progressive Food Texture Guide

I. BLENDED DIET	
Required Eating Skills	**Sample Food Textures**
Swallowing with head slightly forward Some elevation tongue movement with back of tongue	Thick purees Hot smooth cereals Custards Ice cream Mashed potatoes Applesauce Yogurt Gelatin[1] Well-mashed banana Well-mashed avocado

II. FINELY GROUND DIET	
Required Eating Skills	**Sample Food Textures**
Swallowing with head slightly forward Elevation tongue movement with back of tongue Up and down chewing well developed Beginning lateral tongue movement	Cottage cheese Scrambled eggs Lumpy mashed bananas Well-mashed peaches Oatmeal Well-mashed cooked vegetables Lumpy mashed avocado Egg salad Finely ground meats (with gravy)

III. COARSELY GROUND DIET	
Required Eating Skills	**Sample Food Textures**
Swallowing with head slightly forward Up and down chewing well developed Elevation tongue movement Lateral tongue movement	Coarsely ground meats Fine coleslaw, salads Chopped, cooked vegetables Rice Chopped, soft fruit Cheeses Banana slices Tuna fish Peanut butter[2] on crackers Dry cereal

IV. CHOPPED TEXTURE DIET	
Required Eating Skills	**Sample Food Textures**
Well-coordinated swallowing Elevation tongue movement Up and down chewing well developed Lateral tongue movements well developed Some rotary chewing	Chopped meat Small, whole tender vegetables Soft fruit Small pieces of bread Salad greens Coleslaw Crackers Fruit cocktail[3] Macaroni

1. Gelatin can be very difficult for some children because it changes textures in the mouth from solid to liquid.
2. People who have tongue thrust should not eat sticky foods like peanut butter because they may have difficulty removing it from the roof of the mouth and may increase tongue thrust movement. Also, eating peanut butter is very difficult for anyone with a high-arched palate or cleft palate.
3. Slippery canned fruit presents a problem because it may slide down the throat before the child can chew it.

by Suzanne Rice, R.D., M.P.H.
Alta California Regional Center

Table II-2

Sample Soft-Food Breakfast Ideas

As the following ideas suggest, most regular breakfast items are suitable for the soft-food menu. Suggestions for changes that may be necessary are indicated in parentheses.

Meat/Meat Alternate
Cheese cubes
Creamed, chopped beef
Deviled eggs
Grilled cheese sandwich (quartered)
Peanut butter/applesauce sandwich
Sausage (with gravy)
Scrambled eggs
Soft beef roll

Bread/Bread Alternate
Cereal in milk (cooked cereals)
Cheese pizza (soft crust, small wedges)
Cinnamon toast (wedges)
Corn grits
French toast (cut up)
Hot oatmeal
Muffins (cut)
Pancakes (cut up)
Waffles (cut up)
Whole wheat toast (quartered)

Fruit or Vegetable
Applesauce
Apple wedges (cooked apple slices)
Fruit or tomato juice
Hashbrown potatoes
Mixed fruit cup
Orange quarters (orange sections)
Grapefruit quarters (grapefruit sections)
Sliced bananas, pears
Stewed prunes (pitted)

Milk
As a beverage and/or on cereal

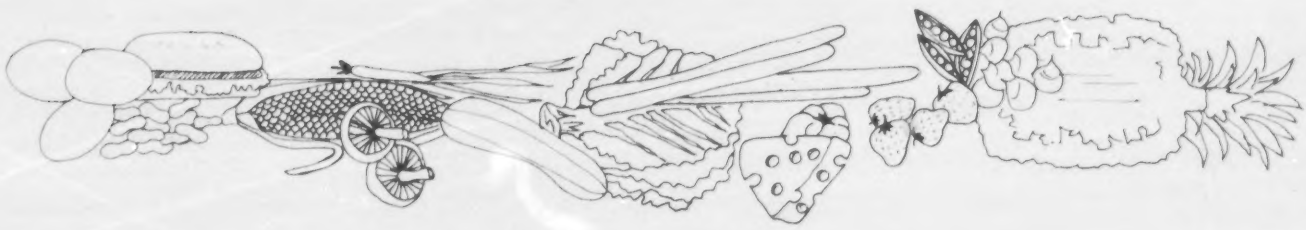


Table II-3

Sample Soft-Food Lunch Menu Modifications

Meat/Meat Alternate	Soft-Diet Suggestions
Beans, baked	Mashed
Beans and franks	Cut franks into strips or circles
Beans, lima	Mashed
Beans, with pork	Mash beans, eliminate pork
Beef, barbeque	Chop beef, eliminate spicy sauce
Beef, burritos	Soft tortilla, chopped beef
Beef, hamburger	Serve patty cut up with bread on the side
Beef, roast with gravy	Chop beef
Beef, Sloppy Joes	Serve meat and sauce with bread on the side
Beef stew	Cut beef and vegetables
Beef, taco	Serve meat and sauce without taco
Celery sticks/peanut butter	Cracker/peanut butter, no celery
Cheese sandwiches	Cut into quarters or strips
Cheese sauce	No change
Cheese slices	No change, or cube
Cheese sticks	No change
Chicken chow mein	Chop chicken, serve with rice, eliminate celery
Chicken and noodles	Chop chicken, cut noodles
Chicken, oven barbequed	Chop chicken, eliminate sauce
Chicken, oven fried	Chop chicken, remove skin and bones
Chicken and turkey, baked	Chop chicken and turkey
Chicken/turkey and biscuits	Chop chicken/turkey and cut biscuits, or substitute biscuits with bread
Chicken and turkey, diced	No change
Chicken/turkey in gravy	Chop chicken/turkey
Chicken/turkey salad	Eliminate celery
Chicken/turkey, sliced	Cut in strips, chop
Cottage cheese	No change, combine with small pieces of soft fruit
Eggs, scrambled	No change
Eggs, salad	Eliminate celery
Fish and chips	No change, remove any bones
Fish, baked	No change, remove any bones
Fish sandwiches	No change, remove any bones
Fish sticks	No change, remove any bones

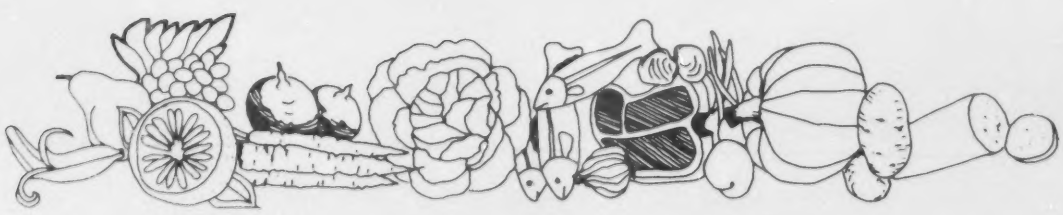
(continued)

Table II-3 (continued)

Fruits and Vegetables	Soft-Diet Suggestions
Apples	Cooked
Applesauce	No change
Apricots	Cut up
Bananas	Sliced or as finger food
Beans, green	Cut up
Broccoli	Cut up
Cabbage	Cooked, finely grated in coleslaw
Cantaloupe	Sliced or cubed
Carrots	Diced if cooked, or grated if raw
Celery	Cooked only
Cherries	Pitted
Corn	Cream style
Cucumbers	Peeled and cut up
Grapefruit	Sectioned
Grapes	Without seeds
Lettuce	Finely chopped, not on sandwiches
Onions	As seasoning
Oranges	Peeled and sliced
Peaches	Chopped fine
Pears	Cut up
Peas	In sauce or casseroles
Pineapple	Crushed or cubed
Plums	Without skins, pitted
Potatoes	Mashed, French fries, au gratin
Raisins	Only as appropriate for child
Spinach	Cooked and chopped
Squash	Soft cooked
Tomatoes	Cooked or raw and cut up
Watermelon	Sliced or cubed, without seeds

Table II-3 (continued)

Bread and Bread Alternates	**Soft-Diet Suggestions**
Bread, sliced	Day old preferred, cut up
Cereals, dry	Serve with milk
Corn grits	No change
Oatmeal	No change
Macaroni with cheese	No change
Noodles, buttered	Cut, serve with sauce
Noodles, casserole	No change
Oatmeal, cooked	No change
Pizza, cheese	Soft crust, cut into small wedges
Rice, casseroles	No change, serve in sauce or casserole
Rice, Spanish	No change
Rolls, French hard	Soft, sliced
Rolls, hamburger or hot dog	Serve bread on the side
Rolls, yeast	No change
Spaghetti	Cut
Taco shells	Substitute soft tortilla or bread
Tortillas	Soft, flour
Milk and Dairy Products	**Soft Diet Suggestions**
Cheese	See Meat and Meat Alternates
Cottage cheese	See Meat and Meat Alternates
Milk, low fat, whole, skim, or buttermilk	No change
Yogurt	No change



CAFETERIA SETTING

The cafeteria facilities and schedule may have to be modified slightly to accommodate handicapped students.

Facilities

Through staff planning and the cooperation of administrators, a section of the dining facility can be adapted with minimum expense to meet the needs of the handicapped students. By law, wheelchair access to all public buildings should already be available. The entrance to the dining area should have no steps, and the door should be a minimum of thirty-two inches wide. The aisles between the tray slide and the control railing in the tray service area should be at least thirty-four inches wide. Because orthopedically handicapped children may require open space between tables to have room for their wheelchairs, tables should be at least five feet six inches apart. The underside of the table should be at least thirty inches from the floor. The thirty-inch space should extend unobstructed for at least one foot from the outside edge of the table so that a wheelchair will fit beneath the edge of the table.

Scheduling

Scheduling recess before lunch can result in most children eating a more complete meal since they have had playtime and will not need to hurry through lunch. Some handicapped children, however, require a quiet rest period before meals so that they will not be overly stimulated. Thus, recess before lunch not only allows most children to play first but also removes them from the cafeteria area so that the handicapped children will have their necessary quiet time. Changes in scheduling must, of course, be coordinated with the school staff.

Individual Assistance

Though some handicapped children can carry their own trays and feed themselves, others may require assistance in either carrying the tray, opening a milk carton, or maybe even eating with a spoon. Some students with hyperactivity, emotional problems, or learning disorders may even need individual supervision during the meal. The staff should ask the therapists or teachers about any arrangements necessary to meet the needs of special children. Special education aides may be available to provide these services, or if they are not, volunteer student or parent aides can help with meal routines.

Positioning

Proper positioning is especially important because it helps the children coordinate hand, arm, and head movements. Assuring comfort through proper positioning helps handicapped children eat without becoming too tired, thus enabling them to develop and use effective eating skills. The child should be sitting upright with the head slightly forward and both feet firmly on the floor. In some cases, the children may need to be supported with inexpensive pads, cushions, footrests, and restraining devices to help them achieve a comfortable, upright sitting position while eating.

STAFFING

School districts prepare, distribute, and serve food differently. Food may be prepared in central kitchens and transported to satellite kitchens in either bulk or prepackaged form. Regular and soft-food menus are often developed for the individual schools by the food service director at the district office.

If school meals are prepared on-site at the individual schools, the food service director will have more opportunity to work with the teachers, aides, and handicapped children in determining the proper menu items for individual children. Schools that serve food family style in an effort to adjust portions to the child should have an aide or volunteer modify the handicapped child's food at the table.

Once soft-food menu patterns are established, little additional staff time and cost will be necessary to prepare food for handicapped children. Special education aides may be available to puree food or otherwise adapt menu items for children with the most limiting disabilities.

The food service staff should be introduced to the problems encountered by handicapped children at the school. To dramatize the handicapped child's dilemma, the food service manager could use a simulated experience to demonstrate to the school staff the need for a soft-food diet. These simulations can be incorporated in staff meetings or in in-service education programs for school food service administrators, kitchen workers, aides, volunteers, or teachers. If possible, a special education staff member should be involved in the following simulations:

- A volunteer can be blindfolded to experience eating without seeing.
- The right hand of a right-handed person can be immobilized, while the person eats.
- Staff members can try to eat a meal without closing their lips or chewing.
- A wheelchair can be used to demonstrate what it is like to come into the cafeteria, go through the cafeteria line, and sit at the dining table in a wheelchair.
- After eating a pureed meal, the participants can discuss its appeal.
- Staff members can attempt to feed each other all meal items.

After these simulated experiences, the participants will better understand the need for soft foods, special utensils, and changes in the cafeteria setup for the child's sake. Because this approach may not work well with some staff members, each manager must decide if it is worthwhile. Another approach is to plan ahead and have a volunteer demonstrate some of these ideas.

As an alternative or a supplement to simulation, the food service manager and/or staff could visit a special education class, talk with the teacher about the special food requirements for students, and watch the children eat. The resulting understanding of the problems of handicapped students will enhance the staff's ability to provide for the mealtime needs of these special students.

FOOD SERVICE EQUIPMENT

School food service personnel may need to use special equipment in preparing and serving meals to handicapped students. There are many commercial sources of adaptive equipment and aids for food service for handicapped children. Regional Centers for the Developmentally Disabled, special education schools, and California Children's Services have catalogs of commercial equipment sources. In many situations, regular utensils can be adapted for individual children.

Equipment for Preparing Food

Preparing appropriate meals for handicapped students requires a minimum of special equipment. A hand-held baby-food grinder is inexpensive and convenient for grinding small quantities of food for a student who may need the texture of food changed so that it is easier to chew. If several students need their food chopped finely, a food processor is a wise investment. The use of either of these machines produces ground food that is free of large pieces on which a child might choke, without being as soft and runny as food pureed in a blender.

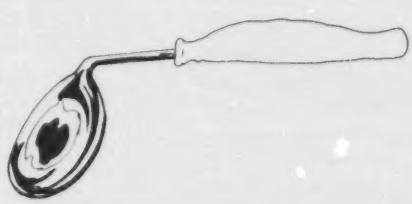
Special education schools may find that a microwave oven is helpful for softening raw vegetables and reheating foods after they have been modified. Special education programs may have funds for such equipment.

Utensils for Serving and Eating Food

Special utensils may be necessary for children with many types of disabilities. These utensils may be supplied by the special education department or by the child's family, or they can be adapted from regular utensils.

A child with a poor grasp frequently has difficulty holding regular eating utensils. The handle of a regular spoon could be built up with a plastic tube, foam rubber, or tape. Utensils with rubber or plastic grips may also prove helpful.

Spoons with curved handles or with swivel heads can help children who have other types of coordination problems learn to feed themselves.

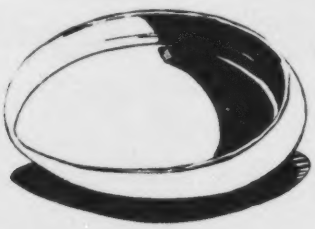


Plastic scoops and shallow plastic-coated spoons can help prevent the problem of cut gums in a child with a rigid bite reflex.

The therapist working with the child should decide whether he or she needs to use special utensils. The teacher should periodically evaluate the child's use of adaptive utensils to see if the child's eating skills are progressing to the point where the child no longer needs special utensils. Teachers should inform the child's parents of all progress toward independent eating.

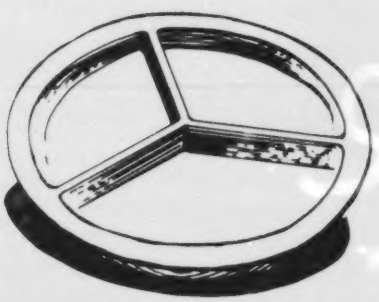
Schools that serve all meals in disposable dishes may need to purchase some heavier plates and cups for handicapped students, since the ordinary dishes may cause problems for some children. Because lightweight pieces tend to slide away or spill easily, sturdy dishes or dishes with nonslip surfaces should be used. A wet washcloth, a place mat, a suction cup, a sheet of rubber, or a cut-out wooden frame underneath the dish can also help prevent sliding.

One of the greatest difficulties for handicapped children is keeping the food on the plate while scooping up the food. Placing food on a fork or a spoon is especially difficult for a child who is blind, has only one functional arm, or has poor hand control. Because getting food onto a spoon is easier if there is at least one tall edge to push against, special dishes with deep sloping sides may be needed. Deep, divided, unbreakable dishes or metal and plastic frames that snap onto regular plates are also practical for these children.



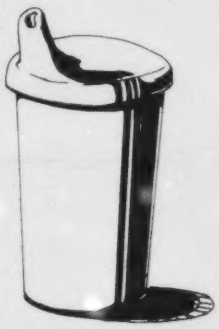
Dish with sloping sides

Metal frame



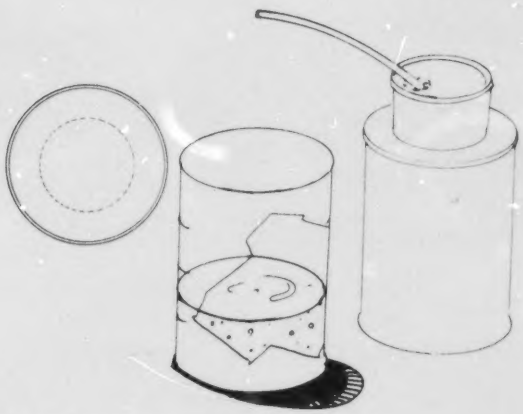
Deep, divided dish

Poor muscular coordination and control often cause children to spill milk when they are learning to drink from a cup. A cup with a weighted bottom or a plastic cup with a lid and spout can also prevent spilling. A "nose cup" (see illustration) can be used by children who cannot tilt their heads back when drinking. If a child is unable to pick up a glass but can drink from a straw, a cup can be set in a weighted can or frame for support. Long-handled cups provide a firmer grip and are therefore easier for the child to use.

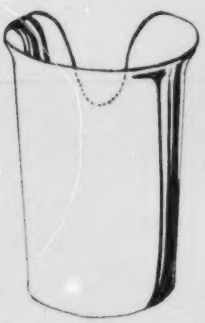


Spouted lid

Long handle



Weighted bottom



Nose cup

CHAPTER III

GUIDELINES FOR CLASSROOM TEACHERS, AIDES, AND VOLUNTEERS

Every child with exceptional needs should have an individual education program (IEP). For some handicapped students, the goal of achieving independent eating skills should be part of the IEP, which ideally has been developed and periodically reviewed by a team consisting of school staff, medical professionals, parents, and the student. A description of the handicapped child's current functioning level (as assessed with the Eating Skills Assessment Checklist, Table III-1, pages 15 and 16) and the child's goals and objectives should be included in the IEP. To assess the child's capabilities accurately, the team must first look at the total person and then determine the proper approach to the independent eating skills program. If parents have an active role in discussions of their child's progress, they should be encouraged to follow through at home by making sure that their child practices the skills that he or she is learning at school.

ASSESSMENT OF EATING SKILLS

Periodic assessment of the handicapped child's eating skills is helpful for those who work with the student in the classroom. This assessment enables those involved in the child's education to be more understanding of the student's needs and also to be increasingly effective in developing the skills of the special student. The Eating Skills Assessment Checklist, pages 15 and 16, is a convenient tool to help teachers make this assessment efficiently, concisely, and thoroughly. To develop a serviceable record of the student's progress, the teacher should first observe the child and then record the skill level in the appropriate space on the chart, always remembering that the child is a person who should not be classified by syndrome or symptom alone.

A therapist on the school staff can give the teacher additional help in directing the child toward the goals of resolving and managing eating problems. If a staff therapist is not available, appropriate referrals to an occupational or speech therapist can be made through California Children's Services (CCS) or the local Regional Center for the Developmentally Disabled listed in your local telephone directory.

Table III-2 on pages 17 and 18 lists normal developmental skills, by age. As such, it is especially useful for comparison purposes. For example, according to this chart, a nonhandicapped child is able to eat with a fork sometime during the ages of three and four years. Thus, a child who is unable to eat with a fork is developmentally below the age of four years for that particular skill. Or an eight-year-old child who is unable to chew or to drink from a cup is functioning at a very low level.

This knowledge of the handicapped child's present skill level as compared to the nonhandicapped child's skill levels helps the teacher to determine reasonable goals. The teacher should realize that the severity of the handicap may be such that one child will never be able to learn independent eating skills, while another child may eventually progress to the goal of independent eating.

Once you have determined a child's level of eating skills, you can determine the food textures appropriate for his or her skills by using the Food Texture Guide, page 5. For example, if a child has beginning lateral tongue movement, a finely ground diet would be appropriate (cottage cheese, lumpy mashed bananas-type textures). But if a child has well-developed lateral tongue movement, he or she should be able to progress to a coarsely ground diet (chopped cooked vegetables, rice-type textures).

Table III-1

EATING SKILLS ASSESSMENT CHECKLIST

Name _____

Condition _____

Is the child able to do these things? If so, when?	DATE	DATE	DATE	DATE
GROSS MOTOR SKILLS:				
Sits in any kind of chair				
Sits upright, unsupported				
Holds head slightly forward				
Moves head toward food				
ORAL SKILLS:				
Has rooting or sucking reflex				
Has normal gag reflex				
Has swallow reflex				
Opens mouth when food is presented				
Closes lips voluntarily				
Controls drooling				
Controls tongue movement				
Removes food from spoon with lips				
Drinks from a spouted cup				
Drinks from a regular cup				
Eats blended or strained food				
Chews semi-solid foods				
Chews solid foods				

(continued)

Table III-1 (continued)

EYE-HAND COORDINATION	DATE	DATE	DATE	DATE
Makes eye contact				
Brings hand to mouth				
Holds finger foods				
Reaches for food				
Bites off pieces of food				
Grasps spoon when being fed				
Holds spoon with fist				
Brings spoon to mouth				
Returns spoon to dish				
Fills spoon with food				
Turns wrist to control spoon				
Eats holding spoon with fingers				
Eats with a fork				
Spears food with a fork				
Uses fork and spoon skillfully				
MEALTIME BEHAVIOR				
Accepts a variety of foods				
Eats without spilling excessively				
Uses utensils appropriately				
Does not eat too fast or too slowly				
Does not stuff food into mouth				
Behaves appropriately at mealtime				

Explain: _____

_____

_____

Table III-2

NORMAL EATING SKILLS DEVELOPMENT

Normal Age	When the Child Has These Abilities	Look for This Eating Skill
Newborn	Rooting reflex Palomental reflex Grasp reflex Suck-swallow pattern Extension tongue movement (forward and back)	
1-3 mo.	Touch on palm causes sucking to begin	
2 mo.	Can lift head off surface so that it is held at 45° angle Vocalizes	
4 mo.	Reaches for objects, but overshoots Plays with object for long period Eyes track a moving object from side to side Anticipates and is excited when food is prepared Laughs out loud Hands come together while playing	Elevation tongue movement (allows infant to remove food from roof of mouth and to swallow)
5 mo.	Reaches and brings objects to mouth Holds weight on forearms when prone	Up and down chewing movements begin
6 mo.	Rolls prone to supine Some independent sitting alone Good head control	Bites on soft foods Chews up and down, can hold and eat a biscuit but does not put it back down Holds the bottle Drinks from a cup when it is held to lips
7 mo.	Transfers objects from hand to hand Bangs objects on table Begins to sit alone	Can feed self a biscuit, and can pick it up and put it down Biting reflex disappears
9-10 mo.	Sits alone easily Good eye-hand-mouth coordination Finger-thumb apposition; can pick up small objects between finger and thumb Stands holding onto furniture	Lateral tongue movement (if present, child should be able to finger-feed easily now)

Table III-2 (continued)

Normal Age	When the Child Has Developed All the Previous Skills, Look for These Skills:
10 months	Rotary chewing (beginning)
12 months	Says 2 or 3 words with meaning Holds and transfers chewable foods to mouth Drinks from cup with moderate spillage but may not be able to return it to table
12-15 months	Casts objects onto the floor Walks with no help
15 months	Feeds self, using spoon without help May rotate spoon near mouth
18 months	Holds and drinks skillfully from glass or cup Does not rotate spoon
2 years	Spoon feeding very refined Good rotary chewing
2½ years	Straw sucking completed
3 years	Pours liquid from pitcher
4 years	Good fine motor coordination; can use fork

Prerequisites for Independent Feeding

1. Head control
2. Sitting balance
3. Functional upper extremities
4. Adequate body awareness
5. Adequate control of jaw, lips, and tongue
6. Adequate biting, chewing, sucking, and swallowing, as well as coughing
7. Hand to mouth control

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by
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Alta California Regional Center
for the Developmentally Disabled

CREATING A SUCCESSFUL MEALTIME ENVIRONMENT

For most people, mealtime is an enjoyable part of the day, a time to interact socially, to relax, and to enjoy food. Unfortunately, meals are often the most frustrating event of the day for handicapped children, their teachers, and their parents. But steps can be taken to make this time more pleasant for all. To reduce some of the handicapped students' tension, teachers should follow a consistent schedule and set aside a quiet restful period before meals so that meals can be relaxed and unhurried. Mealtime is not the time for a long therapy session since the primary goal of eating is to nourish the child.

If the student seems to be ready to work on a new eating skill, it is best to work on it at the beginning of the meal when the child is relaxed and moderately hungry. Because prolonged practice on a new skill may make the child tense and tired, working on this new skill can become unduly frustrating, especially if the child is overly hungry. Therefore, the teacher should schedule work on eating skills as a small part of the mealtime and should defer most of the actual instruction for another time of the day.

Learning Activities

The child can develop some of the skills necessary for independent eating during playtime activities. Prefeeding activities that strengthen arms and improve coordination include building with blocks, scooping sand and water with a spoon and cup, playing with push-pull toys, and throwing beanbags. Play activities that involve picking up small objects are good practice for finger feeding, while games played with a mirror can help increase the child's awareness of the anatomy and motions of eating.

Activities that exercise the muscle groups used in eating can also help prepare the handicapped child for mealtime. Some children will need relaxing exercises to loosen their muscles before the meal, while others may need exercises to stimulate their muscles. Each child's IEP should indicate which activity is appropriate.

Preparing for the Meal

The surroundings should be designed for easy clean-up. Using large bibs and putting newspapers on the floor help eliminate some of the inevitable mess. To keep confusion to a minimum, the teacher should clear the table of everything not related to the meal.

Because a touch of something tart on the tongue initiates tongue movement, nerve transmissions, and salivary activity, waking up the taste buds with a drop of lemon juice may be helpful for some children.

Positioning the Child

A comfortable, functional eating position with proper support for the child not only facilitates control of hands and arms but also stimulates the ability to swallow. If the child cannot support the body, he or she may require adaptive equipment for head and trunk control. The child's therapist should recommend such adaptive equipment and sources for acquiring the equipment. Ordinary pillows and cushions can also help provide the necessary body support.

The ideal eating position is for the child's hips, knees, and elbows to be at 90° angles with the floor. The child's feet should rest on a solid flat surface. If the child's legs are too short for the feet to reach the floor, a footrest, such as a sturdy cardboard box, is necessary.

Chairs and tables are also instrumental in helping the child achieve the proper eating position. The best table height is just above children's elbows so that their arms can rest comfortably on the table top. Some children need high chairs or cut-out trays attached to wheelchairs, while others do fine at the dining table.

Because uncontrollable movements can be a hindrance to good mealtime positioning, some restraints may be necessary to minimize such movements. If straps are used to support the body, they must not affect the child's breathing. An occupational therapist should be consulted for information about the proper eating position and the proper use of restraints or supports for individual children.

Inappropriate Eating Behaviors

The child's inappropriate eating behaviors may be either an attempt to get attention or the result of a physical disability that may very well be controllable with proper techniques. The following examples illustrate some common inappropriate eating behaviors and offer suggestions for correcting them so that mealtime will be more pleasant for everyone. Positive reinforcement of proper behaviors is extremely important in all instances. Praise acceptance of new foods, appropriate table manners, and non-spilling rather than emphasizing the inappropriate behaviors.

Refusal of Food. Each person should be able to decide whether or not to eat. If a child will not eat what is served, the teacher should first consider whether a physical obstacle is making it especially difficult for the child to eat. If the food is in a form that the child cannot chew or swallow, or if the child cannot reach the food or easily take it from the plate to the mouth, these matters should be corrected. But if there is no physical reason why eating is impossible and if the child is able to eat independently but refuses to do so, the food should be taken away without comment, after a reasonable length of time, and not offered again until the next mealtime. Eventually the child will learn that skipping a meal only makes a person hungrier (29)*. This procedure should be used sparingly, and the child's parents should be informed whenever the child hasn't eaten at school.

Temper Tantrums. A child usually throws a temper tantrum to get the instant attention of nearby adults; consequently, it can be prevented if the child is getting ample attention for good behavior. If a tantrum does occur, it can be controlled if the adults withdraw their

*This number and all other numbers appearing in parentheses in the text refer to the numbered references in the Selected References on page 52.

attention. If the aide or the teacher simply leaves the room for a short time or turns away from the child having the tantrum, thus eliminating the audience, then the performance usually ends quickly. As before, the adult can control the behavior by removing the child's plate during the tantrum and returning it only after the storm has passed. If attention doesn't materialize, tantrums are usually short-lived.

Frequent Spilling. Frequent spilling is often the result of carelessness or inappropriate behavior. Let the child earn the privilege of holding the glass or cup by demonstrating the ability to not spill for specified intervals. Praise the child's success, whether it be for two minutes or the entire meal. The child who does the spilling will quickly adopt a more controlled behavior pattern if he or she is required to clean up the mess before continuing with the meal. If the child is physically unable to do the clean-up, the adult should interrupt the meal to tell the child that eating cannot continue unless the spilling stops. These measures help the child face the responsibility for his or her own actions, an important learning experience for all children.

Refusal of New Foods. A child may develop a taste for new foods if they are served with familiar and already liked foods. The adult can combine two foods, always making sure that the food flavors are, of course, compatible. For example, mashed sweet potatoes may be mixed with crushed pineapple, or meat may be combined with vegetables. Gradually the proportion of new food to favorite food can be increased as the child gets used to the new flavor. Another method of introducing a new food is for the child to eat alternate bites of new and favored items. If the child refuses the new food, the adult should delay before offering the favorite food. When the child eats the new food, the adult should offer praise to provide incentive and encouragement for the child to try the new food again.

Improper Eating Habits. Other inappropriate eating habits, such as stuffing food in the mouth, throwing food, and eating non-food items, should be controlled to help ensure a pleasant mealtime for all children. First, provide a lot of praise for appropriate behavior — then whenever inappropriate behavior occurs, the aide or teacher should first verbally reprimand the child and then discuss the proper procedure with the child. If the improper behavior continues, the aide or teacher should remove the food for a short time or should turn away so that the child realizes that the behavior is improper. The teachers and aides should formulate their behavioral goals beforehand to enable them to be consistent in all disciplinary actions.

Hypersensitivity

Some children are extremely sensitive to touch on the face, especially around the mouth. This hypersensitivity results in their defensiveness when people try to feed them. The teacher can overcome the oral sensitivity of the handicapped child by applying special techniques in tactile exercises. Although oral defensiveness is often misinterpreted as rejection of food or the person's touch, it is usually an involuntary response. The following suggestions for physical contact and oral stimulation can help the teacher modify this hypersensitivity:

- During playtime and daily activities, the adult can increase physical contact by touching the child's arms, hands, and face. Because a light touch tickles, gentle but firm pressure should be applied.
- Washing the child's hands and face with a soft cloth before and after meals is important for stimulation, as well as for hygiene.
- Hypersensitive children often do not put their fingers in their mouths as other children do, thus missing out on this natural stimulation and exploration. The adult should encourage them to experiment with putting their fingers into their mouths.
- Oral stimulation techniques include stroking the side of the child's face and massaging his or her gums and teeth with a soft, clean cloth.
- To minimize the child's sensitivity to metal spoons, the adult should replace them with plastic-coated metal spoons (available through commercial catalogs).

TEACHING EATING SKILLS

Methods for teaching eating skills can be tailored to the needs of the child; however, not every handicapped child will need to be included in such a program. For example, if the child can chew and swallow without difficulty, sit in a position to make eating comfortable, get the food into the mouth, and swallow without excessive gagging and choking, then the teacher should attend to other children who need more help. Because all children are at various stages of development in these skill areas, the teacher should consider and evaluate each of the above areas when assessing the child's eating skills level. After making such an assessment, the teacher can then identify the specific problem areas. This section

focuses on specific eating problems and techniques for working with individuals who need help in overcoming eating problems.

The teacher must constantly evaluate the child's progress. If the present teaching techniques aren't achieving noticeable results after repeated attempts, the teacher should try something else. With a little practice, the teacher will soon learn what techniques work best with each child. Just as there is no right or wrong way for a child to eat, so also is there no one set method for the teacher to use to help the child get closer to the goal of independent eating. Each child is an individual, and each day brings changes.

Teaching some children independent eating skills may take a long time. Consequently, the teacher shouldn't become discouraged if the students don't learn everything in several sessions since it may take them months or even years. If the teacher knows just how much help to offer and gives the children lots of praise, encouragement, and practice, they are more likely to be successful and less frustrated.

Sucking

Sucking is a skill necessary both for proper speech and for eating. Handicapped children who are unable to use their lips and tongue to suck effectively may improve their sucking ability through special exercises that develop lip and tongue control.

The adult can encourage sucking by (1) briefly rubbing ice around the child's lips, (2) demonstrating lip smacking, (3) helping the child practice smacking his or her lips in front of a mirror, (4) placing fingers on the sides of the child's mouth and then gently stretching outwards to create a puckering reflex, and (5) giving the child a popsicle, a lollipop, or a cloth soaked in fruit juice to suck.

Drinking through a straw is a good way for a child to correct an inadequate suck. Before attempting to teach sucking through a straw, the teacher should first make sure that the child can drink from a cup. At first, plastic tubing is preferable because paper straws flatten too easily and glass straws may break. The steps for teaching a child how to suck through a straw include: (1) placing the straw in one of the child's favorite liquids and then putting a finger over the end of the straw to hold a small amount of liquid, (2) placing the straw in the child's mouth and moving the straw around a little to encourage lip closure and sucking reflex, (3) releasing the finger from the end of the straw to allow a little fluid to run into the child's mouth, and (4) if necessary, holding the child's lips closed with the thumb and index finger.

To encourage sucking, the adult can use a plastic squeeze-bottle with a short straw attached to the lid. At first, just a little fluid should go into the child's mouth in order for the child to get the idea. After learning to suck thin liquids, the child can eventually progress to sucking thicker fluids like milk shakes. The child should also learn to use paper straws without biting down on them. Once the child has mastered drinking through a straw, the adult should encourage the child to use a straw for drinking all liquids in order to develop the necessary muscle tone for speech. The adult should praise the child for every attempt at sucking.

Swallowing

Swallowing requires that the child be able to use the tongue to move food to the back of the mouth and down the esophagus. Although many developmental disabilities make proper swallowing impossible by impairing the child's tongue control and muscle coordination, the child may eventually develop the ability to swallow by practicing special techniques that aid in tongue control and muscle coordination. For best results, the child should be in the correct position, sitting up with the head bent slightly forward and properly supported so that it will not pull back. Before applying any of the special techniques described in the following paragraphs, the teacher should discuss them with the child's therapist.

"Tongue walking" the spoon may be a helpful preswallowing activity. This involves: (1) pressing a tongue blade, a wide flat spoon handle, or the back of a spoon near the tip of the child's tongue and then near the middle of the tongue, (2) gradually moving the object (spoon) back while pressing three or four times, and (3) finally pressing the object (spoon) near the back of the tongue. Because this procedures encourages swallowing, the adult should perform it five or six times before the meal. Pressing too far back, however, should be avoided since it induces gagging. The adult should use this technique *only* if recommended by an occupational or speech therapist.

When a child is first learning to swallow, the adult should start by offering a small amount of one of the child's favorite liquids on a small-bowl spoon. After placing the liquid near the back of the child's tongue, the adult should stroke the child's throat gently in an *upward* motion to create a swallowing reflex action.

After the child takes liquids satisfactorily, the child can begin eating smooth, soft foods, such as pureed vegetables or fruits, yogurt, pudding, or ice cream, before gradually progressing to foods with lumps and

more texture. The adult should apply slight pressure while placing these foods on the center of the child's tongue. To help the child learn to use the lips to get food off the spoon, the adult should avoid scraping the spoon against the back of the child's teeth. If necessary, the adult can hold the child's lips between thumbs and forefingers during swallowing, gradually releasing this pressure as lip closure becomes a habit for the child. (30)

Learning to swallow takes time and practice. The adult should be sure that the child has swallowed one bite before offering a second one. Holding the child's hand on his or her throat while swallowing helps the child become more conscious of the action. The adult should never scold the child for being unable to swallow, but should instead praise the child for any attempts to swallow properly.

Special Problems Related to Swallowing

"Drooling," which is a common problem for children with poor mouth control, can be a result of poor sucking, poor swallowing abilities, or mouth breathing. Teaching sucking and swallowing may help alleviate the child's drooling problem. The adult can use head control when necessary, making sure that the child's head is never too far forward since that position would allow the jaw muscle to relax and the mouth to drop open.

If the drooling is the result of a behavior problem rather than a physical problem, positive reinforcement helps to encourage the child to practice self-control. In some instances, the adult may merely need to remind the child to keep his or her lips closed. It also helps for the child to see and feel what it is like to have a dry chin. (27) In some extreme cases, controlling drooling may require extensive training.

"Gagging" is a protective reflex action in response to strange new food, too much food, or a sudden change in food texture. Gagging is not the same as choking, which occurs when food becomes lodged in the throat. Although the gagging reflex is normally inhibited as the child matures, a hyperactive gag reflex is very common among children who have hypersensitive mouths. When a child gags, the adult should not show alarm since the child may then see gagging as an attention-getting device and may use it as an attempt to control others. If gagging is carried to an extreme or if the child vomits frequently, a physician should be consulted.

"Tongue thrust" is a swallow in reverse. In tongue thrusting, the tongue pushes the food forward out of the mouth instead of back down the throat. The tongue exercises (or "tongue walking" described on page 21) may help the child control the tongue thrust and may also encourage swallowing.

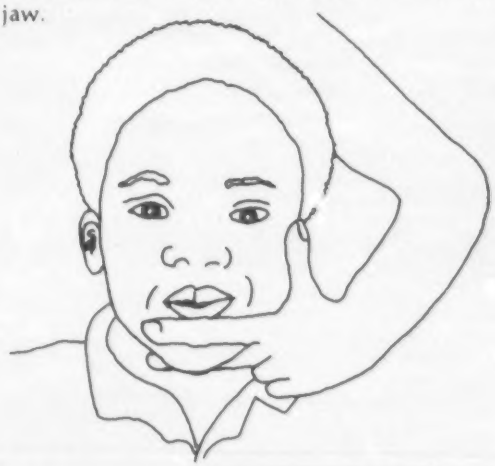
When feeding a child with tongue thrust problems, the adult should serve small spoonfuls of thick foods rather than thin, soupy foods. The adult should apply slight pressure on the child's tongue while placing the food on the middle of the tongue. The child's head should not tilt back, and the lips should not open during the swallow.

Chewing

Chewing is the rotary motion of the teeth to grind food into small bits before swallowing. Some children with developmental disabilities may have problems with chewing because they have poor jaw control and a lazy tongue, while others may have had little exposure to food that needed chewing. A prerequisite for chewing is tongue control, since the tongue mixes food with saliva and moves it between the teeth. Consequently, the child's chewing ability may increase simply through the development of jaw and tongue control. A therapist should advise the teacher on using the following techniques to help teach chewing.

If a child has been fed only soft foods, the first new foods should be lumpy foods, such as scrambled eggs, cooked cereal, cottage cheese, and thick cream soup. As a child learns to chew, the adult can gradually offer a more normal, varied, and textured diet by serving bite-size pieces of cooked vegetables or by adding cut-up fruit to oatmeal or to cottage cheese. Crunchy foods, such as crackers or dry cereals, are interesting for the child because of the sound produced by the chewing.

To give the child further chewing practice, the teacher can place a piece of food that requires chewing between the child's molars and then move the child's jaw up and down. Putting food on alternate sides of the mouth is important so that the child learns to chew on both sides of the jaw.



To help the child develop better tongue movement, the teacher can place sticky foods such as peanut butter on the inside of the child's cheeks, lips, and the roof of the mouth. The child must then try to use the tongue to dislodge them.

During the meal, the adult should present a small spoonful of food to the child while simultaneously instructing the child to open the mouth. In some instances, the adult may need to press down on the child's chin to open the mouth. The adult should then place the spoon in the center of the child's tongue while applying slight pressure on the tongue, and the child should remove the food from the spoon with the lips. To stimulate the child's jaw action, the adult may gently tap under the child's chin. The adult should encourage the child to close his or her lips while chewing. In some cases the adult may have to use jaw control, as illustrated below, to get the child to move his or her jaw up and down. If the child gags on what is being fed, the adult should try smaller bites and slightly softer texture, gradually adding coarser textures and larger pieces of food as the child progresses. A school-aged child should not be kept on a soft diet any longer than physiologically necessary, since it slows development and also limits the development of speech.

While chewing, the child should be encouraged to feel his or her own jaw, thus becoming aware of jaw movement. The adult may need to remind the child to keep the lips closed, to use the tongue to move food around, and to chew food thoroughly before swallowing. As usual, the adult should praise the child for a well-chewed bite. (29)

While a few children at a low functioning level will never be able to learn to chew, many children have simply never been taught to chew. Because the art of chewing takes time and practice, the child needs encouragement every step of the way.

Finger-Feeding

Encouraging finger-feeding, a process which normal children learn at a fairly young age, may help the handicapped child develop independent eating skill. Because the child needs hand-to-mouth coordination to get food up to the mouth, prerequisites to finger-feeding include control of the head, body, hand, and arm, the pincer grasp (i.e., holding an object between the thumb and fingertips), and the ability to chew and swallow.

Providing the child has appropriate eating skills, an effective method that helps the child who does not finger-feed at all is to dip the child's fingers into favorite foods, such as peanut butter or applesauce. If the child does not put the fingers into the mouth, the adult should guide the child's hand. The child may need to practice this technique until the child can independently raise his or her hand to the mouth. If the child has not mastered the pincer grasp, finger foods must be large and thin (e.g., a cracker or a slice of cheese) so that the child can hold the food with the whole hand in order to bite off a piece.

Examples of suitable finger foods include strips of chicken, dry scrambled eggs, cheese slices, small thin sandwiches cut into eighths, toast wedges, graham crackers, dry cereal, soft cooked green beans, cooked carrot and celery sticks, bananas, and sliced fruit. The texture should be selected according to the child's chewing ability, and any items that might cause choking, such as carrot and celery sticks, should be served with caution. As is to be expected, the child is more likely to eat colorful and appealing foods that are familiar.

The adult may have to place the food in the child's hand and help the child control the arm movement by guiding the arm at the elbow if needed. To prevent confusion, frustration, and gagging, the adult should make sure that the child has swallowed one bite completely before offering the next one. The adult should gently hold the child's hand at the table to prevent the child from stuffing the mouth full of food. The adult should praise the child's every attempt to eat independently.

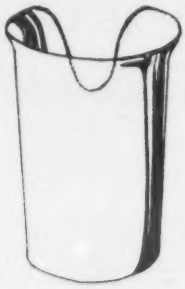
If a child who is beginning to learn finger-feeding is unable to get enough food because of the time the process initially takes, the adult may have to offer finger-food first and then follow up with spoon-feeding. The child should master the art of finger-feeding before learning to eat independently with a spoon.

Drinking from a Cup

A child can refine independent eating skills if encouraged to drink liquids from a regular cup whenever possible. In the initial stage of the training, a child who is accustomed to drinking from a bottle could use a cup with a short spout. However, the adult should be aware that this can interfere with the child's efforts to control tongue thrust. If the child will take food from a spoon but not from a cup, the adult can use a spoon to transfer liquids from cup to mouth, gradually moving the cup closer to the child's mouth. A small-diameter cup or a cup with a recessed lip that meters out a smaller stream of liquid through a slot is best so that the child receives a small amount of liquid at the center of the mouth.

Some children are unable to tilt their heads back, an action that is necessary for drinking from a cup. The adult can easily make a cup with a cut-out to accommodate the child's nose by cutting a piece about an inch and a half deep and an inch wide out of a small plastic cup. The cut-out cup also enables the adult to tell how much liquid is getting into the child's mouth.

Cut-out cup



When first teaching cup drinking, the adult should start with liquids the child likes such as juices, and milk. If the child has difficulty drinking thin liquids, the adult can serve thick liquids that flow more slowly, like a milk shake, softened yogurt, or pureed fruit mixed with juice.

When starting to work on a new skill, the adult should talk about what is being done. For example, the adult might say, "We are going to try to drink from a cup today." After bringing the cup to the child's mouth and touching the rim to the lower lip, the adult can then pour a small amount of liquid into the child's mouth. To keep the liquid from spilling, the adult may need to hold the child's lips closed. To encourage swallowing, the adult should gently stroke the child's throat with an upward motion. The adult should offer only one sip at a time until the child is finished. As is to be expected, drinking will be messy until the child learns lip control around the cup.

After the child learns to drink from a cup, the next step is to teach him or her to bring the cup to the mouth independently. Because some children may be able to grasp a long-handled cup more easily than a standard cup, the adult should consider using such an aid. Though the child may initially need assistance in raising the cup to the mouth and returning it to the table, gradually the adult should withdraw such assistance as the child learns greater control of the cup.

Self-Spoon-Feeding

Independent eating with a spoon requires hand-to-mouth coordination, wrist action, and mouth control. Physical or developmental disabilities may impede the child's ability to learn independent spoon-feeding skills.

To begin spoon-feeding training, the adult should follow these steps:

1. The child should be positioned according to individual needs. See page 19.
2. Holding the spoon is the first skill for the child to master. Whenever necessary, the spoon should be adapted to the child's level of functioning as advised by a therapist. If the child has a poor grasp, the handle may be built up. If the child has tender gums, a plastic-coated spoon helps prevent mouth injuries. With successful training, the child should eventually progress to using normal eating utensils.
3. Getting food onto the spoon requires a great amount of coordination. The child will be more successful if the adult anchors the plate to the table with a suction cup or rubber mat. High-sided bowls, deep sectional trays, or metal arcs attached to the side of the dish are also helpful. See page 12. As the child becomes more skillful, the adult should remove these aids so that the child can learn to eat with normal utensils. Thick foods that are easy to get on a spoon, such as creamed meat dishes, hamburger casseroles with rice or small noodles, mashed potatoes or beans, applesauce, and puddings, are the best. Because small individual pieces of slippery foods and thin soups are difficult to handle, they should be avoided.
4. The adult should start with small servings and make seconds available.
5. Getting a spoonful of food up to the mouth requires a great deal of concentration and skill on the child's part. At first, the adult may need to hold the child's hand on the spoon, gradually decreasing the level of support as the child progresses. The adult should let go in stages: (1) first when the spoon gets close to the child's mouth, (2) then when the spoon is a few inches away from the child's mouth, (3) eventually right after the child scoops up food, and (4) finally before the spoon is filled, by which time the child should no longer need any support. The adult should praise the child for every level of accomplishment. (26) If this technique doesn't work, the adult might try progressing from full hand support to control at the wrist, and then to guiding at the child's elbow.
6. In some cases, the adult and the child may be able to alternate feeding the child every other bite. The

adult should try different methods to see which one works best with the individual child. Eventually, the adult should be able to stand by the child with a watchful eye and lots of praise.

Self-Fork-Feeding

Independent eating with a fork is difficult because it requires the development of more coordination than do any of the other feeding skills. The child must learn to scoop certain foods onto the fork and to spear other foods with it. Even after mastering these skills, the child must still decide which foods to eat with a fork and which to eat with a spoon. A "spork" (a spoon shaped utensil with fork prongs) is an ideal utensil for a child to use to make the transition from using a spoon to using a fork.

The adult should not attempt to teach the child to eat with a fork until after the child has mastered using a spoon. In teaching fork-feeding, the adult should consider the safety of the child and the ability to handle a fork.

To begin teaching independent eating with a fork, the adult should present the child with a plate of food that requires using both a spoon and a fork (i.e., a plate containing soft foods, such as applesauce or pudding, and dry foods, such as meat and vegetables). After placing a spoon and a fork beside the plate, the adult should discuss which foods are eaten with a spoon and which are eaten with a fork. The adult may need to demonstrate how to scoop the fork under the food and how to spear food with a fork. The child should then be allowed to experiment on his or her own, with the adult praising the child whenever he or she uses the utensils properly.

If the child finds that the above method is too confusing, the adult may want to offer a plate of food that needs to be eaten only with a fork. The child should be given only a fork and should master using it before being confronted with a plate containing two consistencies of food that make the child decide which utensil is proper to use.

Visual Handicaps

Visually handicapped students may need assistance in the mealtime routine. To reduce the child's anxiety, the teacher should familiarize the child with food selection procedures and the physical arrangement of the facility. Perhaps another child can walk through the cafeteria line with the blind child, explaining where things are. This orientation should include every step of the dining process, including where to sit, where to throw away the trash, and where to return the empty tray. The teacher should also alert cafeteria workers to the kind of assistance the child might require in selecting and paying for the food.

A blind child can be taught to locate food on the plate. Before the meal, a student or an adult can guide the blind child's hand to feel where each food item is on the plate. Another way to familiarize the child with the location of food on the plate is for the helper to describe it as a clock, saying, for example, "Your beans are at ten o'clock. Your applesauce is at two o'clock. Your casserole is at six o'clock, and your milk is at twelve o'clock." Then the child may be able to eat independently, using regular utensils and, if necessary, a plate guard or scoop dish. It may be helpful to hold the plate in place with a non-slip plastic mat, a suction holder, or a wet washcloth.

OTHER RELATED CONDITIONS

Often, the child's handicapping condition causes related physical problems. A knowledge of the following incidental physical conditions related to poor nutrition helps the teacher work more successfully with the individual child.

Obesity

Overweight is due to many causes. With many handicapped children, obesity is a direct result of inactivity or inappropriate eating behavior. In some cases, children are unable to move their bodies or have not been encouraged to do so. In those instances where obesity is one of the symptoms of a disease, the professional working with the child should monitor the efforts to control weight.

Some parents who feel that their child has suffered enough and should be allowed to eat virtually anything often mistakenly reward the child with candy, sweets, and other nonnutritious food. Such food used as compensation can lead to totally inappropriate eating habits.

A handicapped child, like a nonhandicapped child, learns food preference and habits mostly at home. If parents overindulge themselves, encourage overeating at meals, or have inappropriate snacks in the house, the child can easily pick up these deleterious habits.

The child can lose weight by limiting kilocalories or by increasing activity. Empty calorie snacks, such as fried snack foods, candy, cake, and rich pastries, should be among the first foods that are eliminated from the diet. The teacher can develop a low caloric meal plan using the four food groups, as illustrated in the handout to use with parents, page 37. School food service staff and nutritionists on the school staff may be available to assist in meal planning.

School is an excellent place for the child to increase physical activity and to control caloric intake. Appropriate exercise, depending upon the abilities of the individual, might include active floor play for the nonambulatory, wheelchair games, or walking.

Underweight

Delayed physical growth may occur for a number of reasons. Children with chronic handicapping diseases, such as cerebral palsy, frequently experience this problem. Stunted or delayed growth, a common symptom of poor nutrition, may result from difficulties in eating caused by poor tongue and lip control, difficulty in chewing and swallowing, and delayed tooth eruption. Delayed growth might also indicate that the child's body is not absorbing the nutrients properly. Of course, some children may be small simply because of heredity.

The way parents feed their child may also contribute to delayed growth. When parents have to spend extra time feeding a disabled child, they are often tempted to bottle- or spoon-feed quicky to prevent the mess that inevitably occurs if the child attempts independent eating. By not considering the nutritiousness of the foods they serve, parents can cause their child to suffer inadequate weight gain either from not enough food being served or from the wrong kinds of foods being served. Because parents may, as a matter of course, dilute some pureed foods with water during blending, the child must consume more volume to receive an equivalent nutrient and caloric content.

Other possible causes of low body weight include high metabolic rate or excessive movement. In spastic or athetoid cerebral palsy, involuntary muscular movement increases the child's caloric requirements. Abnormal growth or hyperactivity, with its accompanying high energy expenditures, also increases the child's nutrient needs.

To ensure that the child is gaining weight properly, the teacher should monitor the child's food intake since, in many cases, more food is on the bib than in the child. The teacher should also consider how much food actually gets past the child's mouth and what kinds of foods are actually consumed. Because a child who is overly excited or overly tired will not eat well, a fifteen- to twenty-minute rest period before the meal may prove helpful.

To treat a severe case of underweight, the dietitian may recommend a liquid nutrient supplement to supply nutrients lacking in the food that the child normally consumes. The child can obtain energy and high quality protein, which are the key ingredients in any diet, from ordinary foods. For example, adding one poached egg or 1/3 cup of powdered milk to other foods contributes seven grams of protein and eighty kilocalories. Adding one tablespoon of oil or margarine to foods increases their caloric value by 130 kilocalories. In all cases, liquids should be served only *after* the child has eaten the solid foods.

The helper should not increase the child's caloric intake through sweets because they may actually decrease appetite. Snacks served midway between meals should not be high in fat since this increases the child's feeling of being full. Appropriate snacks could include fruit juice, sherbet, gelatin, simple cookies, or graham crackers.

Drugs That Influence Nutritional Status

Because changes in nutrient metabolism may result from the use of various prescribed drugs, the teacher must be aware of some of these prescribed drugs and their common reactions.

1. Anticonvulsants (Dilantin) affect vitamin utilization (particularly Vitamin D and folic acid), decrease appetite which may cause underweight, and slow down intestinal activity which can lead to constipation.
2. Psychotropic agents, when used for a long term, have caused noticeable weight gain in some people, probably due to appetite improvement.
3. Medication for hyperactivity (Ritalin) may adversely affect growth by suppressing the appetite, which, in turn, significantly lowers the child's caloric intake.
4. Antibiotics (tetracycline, erythromycin) can cause gastrointestinal distress and/or inhibit bacterial synthesis of Vitamin K in the gastrointestinal track.
5. Megavitamin therapy may result in toxicity, diarrhea, or peripheral flushing.
6. Steroids can cause increased caloric intake due to improved appetite.

Constipation

Chronic constipation may be a problem of the handicapped, especially among nonambulatory children. Constipation may also be the side effect of seizure-controlling medication, inadequate exercise, inadequate fluid intake, lack of bulk in the diet, or a combination of any or all of these. In children who have spina bifida and the resulting poor muscle tone, constipation is common.

The best treatment for constipation involves increasing fluids and adding fiber for bulk in the diet. Good sources of dietary fiber are whole grain breads and cereals, bran (as used in bran muffins), and fruits and vegetables (pureed only if necessary). One to two tablespoons of bran can be sprinkled over or mixed into the child's food. When bran is added to the child's diet, the child should receive additional fluids because bran absorbs water. Natural laxatives such as prune juice, stewed prunes, raisins, or figs can be very effective.

The teacher should encourage physical activity to help alleviate the constipation problem. For children who are unable to walk, active floor play during the day can help provide sufficient exercise.

Dental Problems

Serious dental problems may be a result of low resistance to disease, poor nutrition, or plaque build-up on the teeth. The causes of such problems include poor physical condition, inadequate brushing, reaction to medication, lack of tongue movement to help remove food from teeth, or the absence from the child's diet of coarse foods, such as apples, which act as "nature's toothbrush." Because malocclusion (nonalignment of teeth) and other deformities of the mouth can lead to improper eating habits, parents should be encouraged to correct malocclusions as soon as possible.

Good oral hygiene should be part of the child's daily routine to help protect against tooth decay. After each meal, the adult should see that the child's teeth are brushed with fluoridated toothpaste or that the child's mouth is thoroughly rinsed with fluoridated mouth rinse or drinking water. If the child resists a toothbrush, the teeth can be scrubbed with a wash cloth or gauze pad. Gently massaging the gums, brushing, and flossing help alleviate the swelling and soreness in the gums caused by some seizure-controlling medicines (especially Dilantin). When the child is able to eat foods with texture, natural gum stimulation will occur.

To help combat tooth decay, the teacher should encourage all children to eliminate sticky sweets and sodas from their diets.

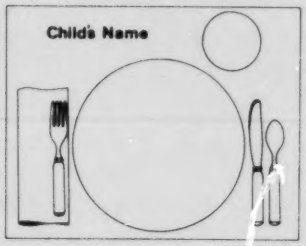
Choking

If the student appears to be choking and cannot talk, cough, or breathe, the adult must take immediate action, possibly by performing the Heimlich maneuver as outlined in Red Cross and first-aid training. As a sound safety precaution, all people who work with the handicapped should be familiar with this maneuver.

NUTRITION EDUCATION TEACHING IDEAS

Teaching handicapped children the principles of good nutrition as delineated in curricula developed through the Nutrition Education and Training Program (NET), Office of Child Nutrition Services, Department of Education, can help them identify foods, purchase food, and plan nutritious meals and snacks. Depending upon the children's abilities, the teacher can increase knowledge of food by planning activities such as the field trips, food parties, or classroom learning games that are discussed in the following paragraphs.

- Nutriton education can be taught at many levels. Children can learn to identify foods by sight, smell, taste, and touch and to associate good food with good health. By classifying foods into food groups, the children can learn the relationships between foods and their sources. To help the children identify the food and the proper food group, the teacher can use food models, food pictures, or pictures of food groups. The teacher can create an enjoyable food-group game by pasting the name and picture of a different food group on each of four boxes and then asking the children to put pictures of various foods into the correct boxes.
- The teacher can conduct a similar activity related to good nutrition and weight control with a "Yes" (good food) box and a "No" (bad food) box and then telling the children to put pictures of various snack items into the appropriate boxes. For example, candy, sodas, chips, and cake go into the "No" box, while juice, fruit, milk, and vegetables go into the "Yes" box.
- To stimulate enthusiasm for the meal, the teacher can have the children make their own place mats for lunchtime. They can use paint, crayons, fingerpaints, or marking pens to create a personal, cheerful place setting.
- The students can take turns setting the table to learn to identify and to place eating utensils correctly.



- To teach the children how to choose appropriate foods and to handle money, the teacher could take a small group of children to the grocery store, where they can pick out nutritious foods and pay for the items. If possible, the children could even prepare and serve a meal using the food that they have purchased.
- The teacher can plan some school meals in a small setting as "do-it-yourself" affairs. Making sandwiches, salad, or soup can be fun for the children, and everyone can participate in some way in preparing the meal. Because the children will probably be messy, cleaning up should be mandatory so that they learn the importance of picking up after themselves. A tasting party where the children try new foods and experience new food tastes is a good way to encourage variety in food choices. Holidays provide themes for parties that teachers can use to encourage the participation of parents and students.
- The children can learn about food buying, cooking, and other related independent-living skills in special classes. Chapter V contains several references for homemaking curricula.
- Nonverbal children who have communication problems or who have difficulty relating what they want can use communication boards or communicators to express their choices. The adult can develop simple methods of communication in class for mealtimes by mounting pictures of foods on a board or on cards made by the children. The teacher can draw pictures of the school lunch menu items, and the children can then use the lunch communicator in the school cafeteria line.

CHAPTER IV

PARENT INFORMATION

Parents as primary caregivers should be informed as to proper feeding techniques for their child. They should also be informed that the ability to eat is a necessary first step in learning to speak, and that because the development of independent eating skills is a major prerequisite to independent living, the earlier a child learns these skills, the better. The following will be helpful in providing parents with this information.

WORKING WITH PARENTS

Because understanding the parents' perspective enhances teacher-parent teamwork, working with the parents of handicapped children is one of the most crucial parts of the nutrition program. If the child does not practice good nutrition and eating skills at home, he or she will have difficulty in making suitable progress. The teacher should regularly notify the parents about the extent of their child's disability and tell them what they can and cannot expect of their child.

Parents need to realize that children learn best when they can be proud of what they can do for themselves. Even if parents need to work closely with an occupational therapist on a specific feeding program, the teacher and aides are still in an excellent position to reinforce and encourage their efforts. Teachers and school staff nutritionists should be readily accessible to parents as a source of information or advice on identifying their child's dietary needs, selecting and preparing suitable foods, practicing eating techniques, and arranging for the child to participate in family activities, including meals and meal preparation.

The school staff should also be aware of the problems parents encounter in the daily routine of their exceptional child. The staff members need to realize that the time the child requires for eating and the emotional reactions of parents may cause parents to foster the child's dependency and to accept inappropriate eating habits.

Eating Skills

Getting parents involved in teaching the necessary eating skills at home is important. Because the teacher can obtain much valuable information by working closely with parents, they should be invited to come to school during mealtime and discuss the child's eating habits and skills at home. The teacher should ask, for example, "What do you feed Sally at home?" or, "How do you feed Carlos?" Although parents may offer invaluable information on what techniques work best with their own child, they may still need some training in how to teach eating skills to their child. The teacher may have to demonstrate the proper technique for positioning, jaw control, spoon feeding, etc. The teacher should advise parents of their child's progress in acquiring eating skills and should reassure them that with practice and exercise, their child can improve and may someday be totally independent at eating. A simple handout containing advice for parents regarding eating skills is included at the end of this chapter.

Nutrition

Parents may need suggestions of nutritious meals and snacks so that the food served at home can facilitate the child's rehabilitation process and help ward off secondary problems, such as infections. Parents should realize that good nutrition is one of the body's best defense mechanisms and is important for the development of good teeth and gums, muscles, bones, and the entire body.

A teacher does not have to be a dietitian in order to give valuable advice about basic good food. The teacher merely needs to consult some of the readily available sound nutrition references to learn the fundamentals of good nutrition. (See Chapter V, Resources) A teacher who believes that a child has a definite nutrition problem should consult the school dietitian or ask the school nurse to contact the local dietetic association, public health department, or Regional Center for the Developmentally Disabled.

For most families, a good place to start to learn about nutrition is with the four food groups. This manual includes a simple handout for parents that offers ideas on what foods should be eaten, how often they should be consumed, and why they are essential.

Beyond the "Basic Four," some parents will need advice about helping their child maintain the proper weight. As mentioned earlier, some handicaps interfere so dramatically with the child's eating and digestion that gaining weight is very difficult, while other handicaps severely limit activity, thus leading to excessive weight gain. For some children, obesity is a result of a family pattern rather than the effect of the handicap.

Another important nutrition-related topic for teachers to discuss with parents is consumer education. Parents should have information on proper interpretation of claims they hear regarding food products, nutritional supplements, miracle cures, and fad diets.

Hyperactivity

Parents who want information on hyperactivity or learning disabilities in children may be referred to a study titled "The Relationship Between Nutrition and Student Achievement, Behavior, and Health — A Review of Literature." This study is available through the California Library System, or may be purchased from the California State Department of Education. The address for ordering the study is contained in the bibliography section of this manual, page 54, item 42.

Parent Involvement

Including parents in classroom activities promotes follow-up training in the home. Because parents want their child to participate in school and to do well, they are more likely to follow up at home when they are given responsibility for their child's work. To try to be sure that handouts on a new food group or eating skill get home and are read, the teacher can build them into a class activity. The parent can be requested to return the form, indicating what the child ate (or did) relative to that food item (skill) so that the child can talk about it or show it to the class. The teacher should build an evaluation into this activity to determine if there is a measurable change in the foods the child eats or an improvement in the child's eating skills.

Parents are more likely to attend a class activity if they are given a specific responsibility or task. Thus, the teacher might invite them to share a family recipe or to bring refreshments for a class activity. Or the teacher might plan a combined parent and child nutrition class where they all share recipes and menus, discuss food likes and dislikes, and talk about why good foods are important. Parents can even be invited to eat a school lunch with their child. All of these ideas get parents involved in their child's education and make them aware of the child's progress in acquiring good eating habits.

HANDOUTS FOR PARENTS

The handout section of the manual is designed for the teacher to use in working with the parents of handicapped children. Because providing parents with their personal copies of printed information leads to increased parental awareness and cooperation, the teacher should use these handouts to help acquaint parents with the eating program goals for their child. No permission is needed to reprint and use the following handouts for parents.

1. "Teaching Eating Skills to Your Child" helps parents master the procedures necessary in teaching independent eating skills to their child.
2. "Feeding Your Child Nutritious Foods" includes a sample food guide and helps parents plan nutritious meals, using the reimbursable school lunch program as part of the day's total diet.
3. "Helping Your Child Gain Weight" advises parents on high calorie nutritious foods to add to the child's diet.
4. "Helping Your Child Lose Weight" encourages parents to promote normal weight for their child, thus improving the child's appearance, feeling of self-worth, and physical well-being.

TEACHING EATING SKILLS TO YOUR CHILD

Handicapped children experience the same responses to adult anxiety about mealtimes and food intake as any child and can control the situation by their acceptance or rejection of food. Nonhandicapped children may decide that they won't eat their vegetables or drink their milk, and they may go on food jags. It is reasonable to expect handicapped children to react in the same manner. Eating can be enjoyable for you and your handicapped child. By working closely with therapists and teachers, you can design a program to progress toward the goal of independent eating.

Children can sense attitudes and feelings of the adults working with them. A relaxed manner, especially when encouraging new techniques, will help your child — but remember that not every technique works with every child. If what you are trying doesn't seem to be working, try something else. Eating may be messy. Table manners will come after your child has learned to enjoy eating.

Independent eating requires coordination and strength. To help your child develop these and to give your child practice in hand-to-mouth movement, encourage hand-to-mouth activities during play and meals, such as eating finger foods and eating popsicles. Encourage your child to play with shovel and pail, push-pull toys, and small toys, since these activities strengthen muscles and improve coordination.

Positioning

Your child must be in a comfortable position in order to be able to eat properly. If your child cannot sit up, use cushions or pillows to get your child into an upright sitting position, with hips and knees bent, back straight, feet supported, and head slightly forward.

Swallowing

Sucking and swallowing are important for proper speech and eating. You can teach your child to swallow and to control tongue movement by using the following simple steps. First, place the food in the center of your child's tongue, and then press down slightly. Do not let your child take the food off the spoon with the upper teeth; instead, teach your child to use the lips for this purpose. Gently stroking your child's throat upwards will encourage swallowing. Let the child feel your throat as you swallow to feel the movement of swallowing.

Chewing

Encourage your child to chew by gradually increasing the texture of the food. If your child needs help chewing, you may have to help control the jaw at first. To move the jaw up and down, place your thumb on your child's chin, your middle finger under the jaw, and your index finger on the side of your child's face.

Gagging is often a child's reaction to new foods or to more textured foods. Don't become worried if your child gags at first; just be sure to make the change in the diet slowly. Choking can occur if solid foods that are swallowed without being thoroughly chewed get lodged in the throat. Chop the food into smaller pieces, until your child can mange the larger pieces.

Finger-Feeding

Finger-feeding is basic to independent eating skills. If your child will not eat independently, put something sweet or sticky on the child's fingers, like peanut butter or honey, and then guide your child's hand to the mouth. Eventually, your child will put his or her fingers into the mouth without assistance. Foods to start with for finger-feeding are chicken, small nourishing sandwiches, cheese sticks, cooked vegetables, bananas, sliced fruit, and graham crackers.

Cup-Feeding

Drinking independently from a cup requires skill and coordination. If your child has a poor grasp, use a cup with a long handle so that the child can use his or her entire fist to hold the cup. Baby cups with lids and spouts help prevent spills, but they should be used only until your child can hold a cup without spilling too much. If your child cannot hold a cup but can drink from a straw, mount a cup on a weighted base (board or coffee can), put a lid on the cup, and let your child drink through a short plastic straw.

Spoon-Feeding

When your child is ready to begin eating with a spoon, present the spoon and suitable foods that stick to the spoon, such as applesauce, casseroles, or mashed vegetables. If your child has a poor grasp, you may need to build up the handle with tape, a plastic tube, or foam rubber. Consult with a therapist on suitable adaptations.

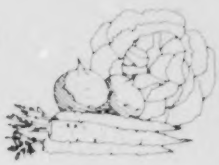
Hold your child's hand on the spoon and guide it to the mouth. After your child catches onto the idea, gradually decrease your assistance. Take your hand away first as the spoon gets near the child's mouth, then when it is a few inches away, and finally when it is at the plate. Eventually your child should be able to handle the spoon, guided only by your encouragement and praise.

FEEDING YOUR CHILD NUTRITIOUS FOODS

It is especially important that you feed your child the most nutritious foods possible. Help your child learn to enjoy good foods and good eating habits. Don't let him or her snack on nonnutritious food.

A Daily Food Guide for Your Child

Food Group	Number of Servings	Size of Each Serving
PROTEIN FOODS:	2 servings	2-3 ozs.
Meat, fish, poultry		
Eggs		
Dried beans, peas, and lentils		
Peanut butter		
DAIRY PRODUCTS:	3-4 servings	
All kinds of milk, including nonfat dry milk, yogurt, cottage cheese, ice cream		1 cup
Cheese		1½ ozs.
BREADS AND CEREALS:	4-5 servings	
Whole-grain breads and cereals or enriched breads and cereals		1 slice or ½ cup
Wheat germ, rice, tortillas		
Macaroni		
FRUIT AND VEGETABLES:	5-6 servings	
Vitamin C sources		
Oranges, orange juice		½ cup
Grapefruit, grapefruit juice		
Broccoli, cabbage, tomatoes		
Vitamin A sources		
Cantaloupe, spinach, greens (collards, mustard, kale)		½ cup
Broccoli, carrots, squash		
Sweet potatoes, apricots		
Others		
Corn, green beans		½ cup
Bananas, and many more!		

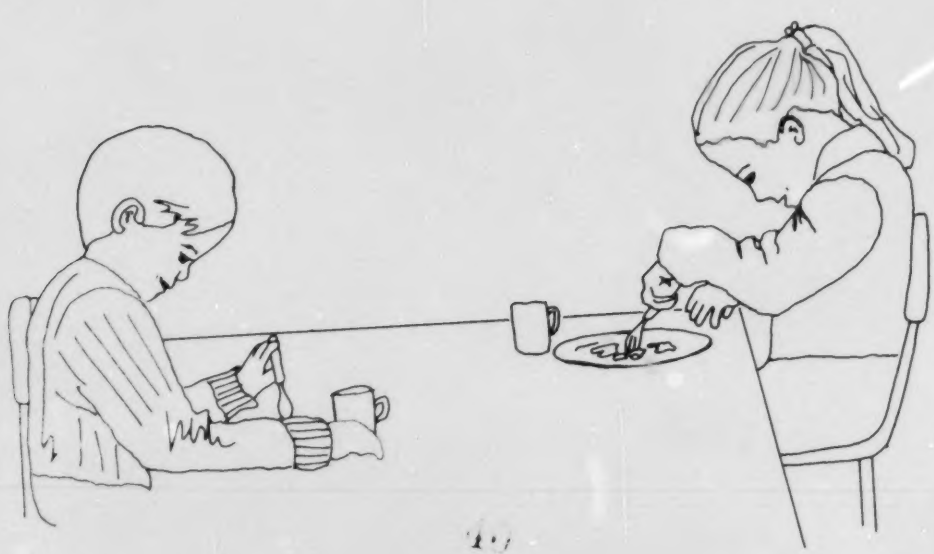


FEEDING YOUR CHILD NUTRITIOUS FOODS
(continued)

DAILY MEAL PLAN

You can develop a nutritious daily meal plan from the food guide shown below. The sample lunch menu is an example of the typical school lunch components.

Food Guide	Sample Menu
Breakfast	
Fruit	Orange juice, ½ cup
Bread or cereal	Whole wheat toast, ½ slice
Milk	Milk, ¾ cup
Lunch	
Meat or meat alternate	Chicken, chopped, in gravy
Fruit	Apricots, chopped
Vegetable	Green beans, chopped
Bread	Rice
Margarine	Margarine
Milk	Milk
Dinner	
Meat or meat alternate	Meat loaf, 3 oz.
Bread or cereal	Bread, ½ slice
Vegetable	Mashed squash, ½ cup
	Broccoli, chopped, ½ cup
Fruit	Fruit cocktail, ½ cup
Milk	Milk, ¾ cup
Snack	
Milk	Milk, ¾ cup
Fruit or vegetable or bread	Applesauce, ½ cup or graham cracker



HELPING YOUR CHILD GAIN WEIGHT*

At mealtime, these foods will add valuable *protein:*

Nonfat dry milk:	Add ¼ cup to cereal, soup, pudding, sauces, mashed potatoes, fluid milk, and gravy.
1 large egg:	Add to raw foods to be cooked, such as sauces, ground meat, and casseroles.
Cheese and cottage cheese:	Add to mashed vegetables, casseroles, scrambled eggs, and sauce on vegetables.
Peanut butter, meat spreads, egg salad, deviled meats:	Serve on crackers or bread.

These foods will increase *calories:*

Oil, butter, or margarine:	One teaspoonful each meal will not change the taste or texture of food to which it is added. Use in gravy, sauces, hot cereal, or cooked desserts.
Mayonnaise, sour cream, salad dressing:	Use on cold vegetables, sandwiches, or fruit salad.

Being underweight because of poor nutrition is not healthy for children. Proper nutrition helps your child increase muscle tissue, physical strength, and resistance to infection. Your child needs protein to build and repair tissue, calories to provide energy, and vitamins and minerals to maintain health. In severe cases of underweight, using a liquid protein-calorie supplement may be necessary, but only if advised by your child's attending physician. Although vitamins and minerals can be obtained from concentrated supplements, as well as from foods, protein and calories should be supplied only by food.

It is more conducive to normal eating habits if you simply increase the size of the food portions you are serving, making sure, of course, that what you are feeding actually gets into your child's stomach. If most of the food is coming back out of your child's mouth, you should check with the therapist to help you improve your feeding techniques.

Make sure that mealtime and snacktime are pleasant experiences by praising your child for eating. Do not nag or scold the child if he or she is not hungry, and don't rush your child to hurry and finish a meal.

Your child may need additional food between meals or before bedtime. Although these snacks can add valuable calories and nutrients, be sure that the snacks are not so large that they diminish your child's appetite at meals. Snacks need to be nutritious foods. Because fats stay in the child's stomach a long time, foods that are high in fat, like ice cream, grated or cream cheeses, and peanut butter, should not be fed between meals to a child whose appetite is poor. Despite being high in fat, such foods, however, are good bedtime snacks because they contribute high quality protein as well as calories and because if you serve them in the evening they should not interfere with the child's appetite at breakfast.

*Adapted with permission from *More Per Bite* by Iris Crump, Nutrition Consultant, San Diego Regional Center for the Developmentally Disabled.

HELPING YOUR CHILD LOSE WEIGHT

Childhood obesity in the United States is increasing and is associated with numerous medical problems. Treatment is difficult once obesity occurs; therefore, prevention is the best cure. Overweight may be due to overeating, inactivity, family genetic characteristics, and/or medical problems.

If your child is overweight, you can help with your child's weight control and weight loss. However, before starting any weight reduction diet, be sure that your child has a medical examination to be certain that he or she should lose weight.

To prevent your child from gaining too much weight, you should follow a good family meal plan that provides all of the basic foods, such as meat or meat alternates, milk and dairy products, whole grain products, fruits, and vegetables. Discourage your child from taking large amounts of foods that provide many calories but few nutrients, such as cakes, cookies, pies, sugar, soft drinks, candy, jams, chips, and doughnuts.

Meat or Meat Alternates

Whenever possible, you should choose lean meats that have been trimmed of all visible fat. Many children enjoy egg and poultry products, which can be served in many different ways for variety. Fish is especially good since it is low in fats and is easy for children to chew. Prepare meats by broiling, boiling, baking, stewing, or pan frying them with no additional fat.

Milk and Dairy Products

Use nonfat powdered skim milk or fluid skim milk for cooking and drinking to limit calories. However, for children under two years of age, the essential fatty acids present in whole milk are necessary for brain development. Avoid ice cream, milk shakes, malted milks, and sweetened chocolate milk for children of all ages, because they contain more calories than plain milk, with little extra nutritional benefit.

Whole Grain Products

Whole grain bread and cereal products should be included in the diet because they have valuable nutrients. Just be sure that they are served with a minimum of added high calorie foods such as butter, margarine, or mayonnaise.

Fruits

Fresh fruits or fruits canned in natural juice or light syrup are good choices for snacks and desserts. If you serve fruits canned in heavy syrup, you should rinse the pieces off in cold water to remove the sugar syrup. Serve unsweetened fruit juices instead of sugar-filled juice drinks.

Vegetables

Children should be encouraged to explore the world of vegetables since they provide fiber, as well as valuable vitamins and minerals. Because most vegetables are very low in calories, you can serve them frequently. If your child has excellent chewing skills, you can serve raw vegetables as snacks or as appetizers. Serving a variety of vegetables can add color to an otherwise dull meal, thus making the meal more attractive to your child.

Exercise

Activity of any kind is beneficial for your child because it burns up calories. Standing uses more energy than sitting, while walking burns more calories than standing. Active floor exercises can also use up extra calories for the nonambulatory child.

COMO ENSEÑAR A COMER A SU NIÑO
(TEACHING EATING SKILLS TO YOUR CHILD)

Los niños que sufren anomalías físicas responden de la misma manera que cualquier otro niño ante la preocupación de los padres sobre lo que deben comer y cuando deben comerlo. Y como cualquier otro niño estos niños pueden controlar tal situación aceptando o rechazando lo que se les sirve.

Todos los niños, de vez en cuando, se niegan a comer verduras y legumbres o a beber leche o sólo quieren la misma cosa todo el tiempo. Por eso no debe sorprenderle que su niño se comporte de la misma manera.

La hora de comer puede ser un momento agradable para usted y su niño. Con la ayuda de los maestros y terapistas se puede desarrollar un programa que guíe a su niño a aprender a comer por sí mismo. Los niños pueden percibir las actitudes y sentimientos de los adultos que tratan de ayudarlos. Una actitud tranquila puede ayudar al niño a adquirir nuevas técnicas, pero recuerde que no todas las técnicas trabajan con todos los niños. Si lo que usted está tratando de enseñar al niño no está saliendo bien, experimente con algo diferente. La hora de comer no siempre será la hora del aseo o la limpieza. El buen comportamiento en la mesa vendrá más adelante cuando el niño haya aprendido a gozar de la comida.

Aprender a comer sin la ayuda de nadie requiere coordinación y fuerza. Para ayudar al niño a adquirir estas habilidades y para ayudarle a practicar el movimiento de llevar la mano a las boca, usted debe favorecer los juegos y actividades que incluyan estos movimientos. Anime al niño a jugar con palas y baldes, juguetes pequeños y juguetes que requieran actividad manual para hacerlos andar, porque tales actividades dan fuerza a los músculos y mejoran la coordinación.

Posición

Para que su niño coma bien, debe de estar en una posición cómoda. Si el niño no puede sentarse, use almohadas para poner al niño en la posición correcta: sentado con la cabeza levantada, las rodillas dobladas, la espalda erecta, los pies bien apoyados.

Como Tragar

Usted puede enseñar a su niño a tragar y controlar la lengua. Primero, ponga la comida en el centro de la lengua del niño y luego presiónela levemente. No permita que el niño tome la comida de la cuchara con los dientes superiores; enséñele a usar los labios. Un masaje suave, hacia arriba, en el cuello del niño le estimulará a tragar.

Como Masticar

Enseñe a su niño a masticar los alimentos aumentando gradualmente la solidez del tipo de alimentos que se le sirven. Si el niño necesita ayuda para masticar, usted tendrá que probablemente ayudarle a controlar la mandíbula por un tiempo. Para mover la mandíbula de arriba para abajo, coloque su debo pulgar en la barbilla del niño, el dedo medio debajo de la mandíbula y el índice a un lado del rostro del niño.

La náusea es una reacción de los niños a los alimentos nuevos o más sólidos. No se preocupe si el niño muestra señales de rechazo, pero haga cualquier cambio de dieta gradualmente.

El atoramiento o atragantamiento puede occurrir si los niños tratan de tragar los alimentos sólidos sin masticarlos bien y la comida queda atorada en la garganta. Corte los alimentos en pedacitos hasta que su niño aprenda a comer los pedazos más grandes.

Comer Con Los Dedos

Comer con los dedos o chuparse los dedos es un paso importante para aprender a comer sin ayuda. Si su niño no sabe comer solo, ponga algo dulce o pegajoso en los dedos del niño tales como miel o mantequilla de cacahuate y entonces guíe la mano del niño hasta la boca. Tarde o temprano el niño llevará sus dedos a su boca sin la ayuda de nadie. Los plátanos, pollos, frutas cortadas, pequeñas tortas nutritivas, pedazos de queso, legumbres cocinadas y galletas son algunos de los alimentos que se pueden usar para empezar a enseñar a los niños a comer con los dedos.

Como Beber Con Tazas O Vasos

Poder beber solo de una taza o vaso requerirá mucha coordinación y habilidad. Si su niño no puede asir o agarrar nada bien, use una taza que tenga un asa larga de modo que el niño pueda usar toda la mano para asirla.

Las tazas con tapa para bebé ayudan a prevenir que los líquidos se derramen, pero deben usarse sólo hasta que su niño pueda sostener una taza sin derramar demasiado. Si su niño no puede sostener con la mano un vaso o una taza, pero sí puede beber usando un popote (paja), pegue la taza o el vaso a una base pesada (un pedazo de madera plano o una lata de café), ponga una tapa perforada a la taza y haga que el niño beba de ella por medio de un popote (paja) corto de plástico.

Como Comer Con Cuchara

Cuando el niño esté listo para empezar a comer con una cuchara, comience su uso con los alimentos adecuados que no se resbalen facilmente de la cuchara tales como salsa de manzana y puré de legumbres. Si su niño no puede asir nada bien, usted tendrá que aplicar cinta o un tubito de plástico, o cinta eléctrica o algo de goma en un extremo de la cuchara para que el niño pueda agarrar la cuchara más facilmente. Consulte al terapista para que le ayude a adaptar la cuchara a las necesidades del niño.

Sostenga la mano del niño con la cuchara y guiéla a la boca del niño. Despues de que el niño entienda lo que se requiere hacer, disminuya su ayuda gradualmente. Retire su mano primero cuando el niño ya tiene la cuchara cerca de la boca, y después cuando todavía está a algunas pulgadas de la boca y finalmente cuando todavía está en el plato. El momento llegará en que su niño podrá comer con una cuchara sin ayuda alguna, guiado solamente por las alabanzas y apoyo verbal de la madre.

ALIMENTOS NUTRITIVOS PARA EL NIÑO
(FEEDING YOUR CHILD NUTRITIOUS FOODS)

Es muy importante que dé de comer al niño los alimentos más nutritivos y que le ayude a que le gusten los mismos. No permita que coma fuera de las horas regulares alimentos no nutritivos. He aquí una guía simple de productos alimenticios para el niño. Asegúrese de que el niño coma alimentos de cada grupo cada día tal como está indicado en la lista.

GUIA DE ALIMENTOS QUE EL NIÑO DEBE COMER DIARIAMENTE

Grupo de Alimentos	Número de Porciones	Tamaño de Cada Porción
Proteínas Carne de vaca, aves y pescado	2 porciones	2 a 3 onzas
huevos		
Frijoles, chícharos, lentejas Mantequilla de cacahuate		
Productos Lácteos Todo tipo de leche, leche descremada, yogurt, helado, requesón Queso	3 a 4 porciones	1 taza
Panes y cereales de trigo Entero gérmen de trigo, arróz, tortillas, macarrones	3 a 6 porciones	1 pedazo o ¾ de taza
Frutas y Verduras **Fuentes de vitamina C** Naranjas, jugo de naranja, Toronja, jugo de toronja, Bróculi, tomate, repollo (col)	5 a 6 porciones	1 taza
Fuentes de vitamina A Espinacas, melones, verduras Bróculi, zanahorias, calabaza, Camotes, chabacanos	5 a 6 porciones	1 taza
Otros Maíz, ejotes Plátanos y muchos otros		

PLAN DIARIO DE ALIMENTACION
(DAILY MEAL PLAN)

Usando la guía del plan diario de alimentación usted puede crear algo nutritivo. A continuación puede verse una muestra de un típico menú escolar.

Guía de Alimentación	Muestra de Menú
Desayuno	
Fruta	½ taza de jugo de naranja
Pan o cereal	½ pedazo de pan de trigo tostado
Leche	¾ de taza de leche
Almuerzo	
Carne	Pollo picado en salsa blanca
Fruta	Chabacanos picados
Verduras y legumbres	Ejotes picados
Pan	Arroz
Mantequilla	Mantequilla
Leche	Leche
Cena	
Carne	3 onzas
Pan o cereal	½ pedazo de pan
Verduras y legumbres	½ taza de puré de calabaza
	½ taza de bróculi picado
Fruta	½ taza de cocktail de frutas
Leche	¾ de taza de leche
Merienda (snack)	
Leche	¾ de taza de leche
Fruta	½ taza de salsa de manzana
Verduras y legumbres o pan	1 galleta

COMO AYUDAR AL NIÑO A AUMENTAR PESO
(HELPING YOUR CHILD GAIN WEIGHT)

Pesar menos de lo que uno debe a causa de la mala alimentación no es saludable para el niño. La alimentación adecuada ayuda al niño a combatir infecciones, a darle fuerza y a aumentar los tejidos de los músculos. El niño necesita proteínas para dar vida a los tejidos y repararlos, necesita calorías para proveer energía, vitaminas y minerales para mantener una buena salud. En casos de severa delgadéz podría ser necesario usar suplementos de proteína en líquido aunque solamente cuando el médico de su niño lo recomiende así. Aunque las vitaminas y minerales pueden obtenerse tanto de suplementos concentrados como de alimentos naturales, las proteínas y calorías deben de ser adquiridas de fuentes naturales solamente.

Por medio del aumento de la cantidad de comida servida al niño, se puede lograr mejorar los buenos hábitos alimenticios, pero hay que asegurarse de que el niño trague bien. Si el niño no está tragando bien, usted debe de pedir ayuda al terapista para que le ayude a mejorar su técnica de dar de comer. Haga que las horas de comer constituyan una experiencia placentera para su niño, elogiándolo siempre. No castigue al niño si no tiene hambre y nunca le obligue a comer demasiado rápido.

A la hora de comer, estos alimentos añadirá valiosas proteínas.

Leche descremada en polvo	Añada ¼ de taza al cereal, sopa, budines, salsa, puré de papas, leche regular y salsa blanca.
1 huevo grande	Añádalo a las comidas antes de cocinarlas, por ejemplo, a los guisos, salsas y carne molida.
Queso y requesón	Añádalos al puré de legumbres, huevos revueltos y salsas.
Mantequilla de cacahuate, carnes enlatadas, ensalada de huevos, carnes sazonadas	Sírvalas con galletas o panes.

Estos Alimentos Aumentar **Calorías**

Aceite, Mantequilla o margarina	Una cucharadita en cada comida no cambiará el sabor o la textura a los alimentos. Uselas en salsa blanca, cereales calientes o postres cocinados.
Mayonesa, crema agria y aderezos	Uselos en legumbres, tortas o ensalada de frutas

Es posible que el niño necesite comer antes de acostarse o entre las horas regulares de comer. Aunque tales meriendas pueden proveer las calorías y los nutrientes necesarios, hay que asegurarse que no disminuyan el apetito del niño. Estas comidas ligeras deben de ser nutritivas. A causa de que las grasas permanecen en el estómago del niño por mucho tiempo, los alimentos que contengan mucha grasa, como los helados, cremas, quesos, y mantequilla de cacahuate, no deben darse, antes de la hora de comer, a los niños que no tienen buen apetito. Sin embargo, a pesar del alto contenido de grasa, estos alimentos son muy buenos cuando son servidos antes de la hora de acostarse porque son fuentes de proteínas y calorías de buena calidad y porque cuando son servidos en las noche no interfieren con el apetito del niño la mañana siguiente.

COMO AYUDAR AL NIÑO A PERDER PESO (HELPING YOUR CHILD LOSE WEIGHT)

La obesidad infantil en los Estados Unidos está aumentando y está asociada con varios problemas de salud. El mejor remedio es la prevención porque una vez que la obesidad ocurre, es difícil de combatirla. La obesidad puede ocurrir a causa del exceso de comida, la inactividad, características genéticas hereditarias o a causa de problemas médicos.

Si su niño sufre de obesidad, usted puede ayudarle a controlar su peso. Antes de empezar una dieta, sin embargo, el niño debe recibir un examen médico para asegurarse de que necesita perder peso.

Para prevenir la obesidad, usted debe seguir un plan de alimentación bien balanceado que incluya alimentos básicos tales como carnes, pollo, pescado, huevos, frijoles, granos, leche, frutas y verduras. No apruebe que el niño coma cantidades excesivas de alimentos que proveen muchas calorías pero que no son muy nutritivos como por ejemplo: los pasteles, galletas, azúcar, bebidas gaseosas, dulces, y jamones, etc.

Productos de Carne

Cuando sea posible, escoja carne en la que se haya eliminada toda la grasa visible. A muchos niños les gustan los pollos y los huevos, que pueden ser preparados de diferentes maneras. El pescado es especialmente bueno porque no tiene muchas calorías y es fácil de masticar. Prepare la carne hirviéndola, asándola, guisándola o friéndola sin añadir aceite en la preparación.

Productos Lacteos

Use leche descremada regular o en polvo para cocinar y beber a menos que su niño tenga menos de dos años, porque los ácidos crasos son necesarios para el desarrollo cerebral. Evite los helados, las malteadas y leche con chocolate endulzada porque ellos contienen muchas más calorías que la leche regular sin añadir ninguna ventaja nutritiva.

Productos de Granos Enteros

El pan integral y los cereales deben de incluirse en la dieta por su valor nutritivo. Usted debe, sin embargo, asegurarse de que contengan el mínimo de aditivos de altas calorías como la mantequilla, margarina o mayonesa.

Frutas

Las frutas frescas o enlatadas en su jugo natural o almíbar son buenas para postres o comidas ligeras. Si usted está sirviendo fruta enlatada en almíbar muy espeso, debe lavar con agua los pedazos de fruta para eliminar el exceso de azúcar. Sirva jugo de fruta al natural en vez de jugos endulzados.

Verduras Y Leguvbres

Los niños deben de tener la oportunidad de probar las verduras y legumbres porque ellas proveen fibras y valiosas vitaminas y minerales. Y porque las legumbres y verduras son bajas en calorías, pueden servirse frecuentemente. Si su niño tiene la habilidad de mascar bien, puede darle verduras y legumbres crudas entre las horas regulares de comer. Las verduras y legumbres también añaden color a las comidas dándoles vida y haciéndolas más atractivas a los niños.

Ejercicios

Cualquier tipo de actividad física es beneficiosa porque quema calorías. Cuando el niño está de pie, quema más calorías que cuando está sentado y quema más calorías aún cuando camina. Para el niño que no tiene mobilidad, ciertos ejercicios en el piso o la cama pueden ayudarle a quemar calorías.

CHAPTER V

RESOURCES

AGENCIES

Many government and private agencies can help in dealing with the various types of handicapping conditions. Some provide diagnostic and therapeutic services; others offer literature about dealing with the handicapped; and yet others are support groups for parents of disabled children. If a child appears to be having difficulties, the appropriate referrals should be made, possibly through the school nurse.

Alta California Regional Center for the Developmentally Disabled
4010 El Camino Avenue, Suite A
Sacramento, CA 95821

American Academy of Child Psychiatry
1800 R Street, N.W., Suite 904
Washington, DC 20009

American Alliance for Health, Physical Education and Recreation Programs for the Handicapped
1201 16th Street, N.W.
Washington, DC 20036

American Association for the Education of the Severely/Profoundly Handicapped
1600 West Armory Way
Seattle, WA 98110

American Association of Psychiatric Services for Children
1701 18th Street, N.W.
Washington, DC 20009

American Association on Mental Deficiency
5101 Wisconsin Avenue, N.W.
Washington, DC 20014

American Council of the Blind of California, Inc.
253 Stonewall Road
Berkley, CA 94705

American Foundation for the Blind
15 West 16th Street
New York, NY 10011

American Optometric Association
7000 Chippewa Street
St. Louis, MO 63119

American Psychological Association
Director, Division of Child/Youth Services
1200 17th Street, N.W.
Washington, DC 20005

American Speech and Hearing Association
10801 Rockville Pike
Rockville, MD 20852

Arthritis Foundation
1212 Avenue of the Americas
New York, NY 10036
(Or contact local chapter)

Association for Retarded Citizens
1414 K Street, Suite 300
Sacramento, CA 95814

Association for the Education of the Visually Handicapped
919 Walnut Street
Philadelphia, PA 19107

California Association for the Deaf
C/O California School for the Deaf
3044 Horace Street
Riverside, CA 92506

California Children's Services
1500 C Street
Sacramento, CA 95814

California Epilepsy Society
6117 Reseda Blvd., Suite G
Reseda, CA 92335

California Health and Welfare Agency
915 Capitol Mall
Sacramento, CA 95814

Central Valley Regional Center
4747 North First Street, Suite 195
Fresno, CA 93726

Closer Look
Box 1492
Washington, DC 20013

Coordinating Council for Handicapped Children
407 S. Dearborn, Room 680
Chicago, IL 60605

Council for Exceptional Children
Information Center
1920 Association Drive
Reston, VI 22091

Eastern Los Angeles Regional Center for the Developmentally Disabled
801 South Garfield Avenue, Suite 305
Alhambra, CA 91801

Exceptional Parent, The
P.O. Box 4944
Manchester, NH 03108

Far Northern Regional Center for the Developmentally Disabled
2400 Washington Avenue, Suite 301
P.O. Box 1848
Redding, CA 96001

Frank D. Lanterman Regional Center for the Developmentally Disabled
1605 West Olympic Blvd., 6th Floor
Los Angeles, CA 90015

Golden Gate Regional Center for the Developmentally Disabled
100 Mission Street, Suite 400
San Francisco, CA 94105

Harbor Regional Center for the Developmentally Disabled
10620 South Leapwood Avenue
Carson, CA 90746

Headstart
56 United Nations Plaza
San Francisco, CA 94102

Inland Counties Developmental Disabilities Services
814 North Arrowhead
P.O. Box 6127
San Bernardino, CA 92401

Kern Regional Center for the Developmentally Disabled
501 40th Street
P.O. Box 2536
Bakersfield, CA 93303

Library of Congress
Division for the Blind and Physically Handicapped
Reference Department
Washington, DC 20542

Lions, International
209 North Michigan Avenue
Chicago, IL 60601

Mental Health Association
1211 H Street, Suite F
Sacramento, CA 95814

Muscular Dystrophy Association
Regional PSC
2728 5th Avenue
San Diego, CA 92103

National Accreditation Council for Agencies Serving the Blind and Visually Handicapped
79 Madison Avenue
New York, NY 10016

National Association for Hearing and Speech Action
814 Thayer Avenue
Silver Springs, MD 20910

National Association for the Visually Handicapped
304 East 24th Street
New York, NY 10010

National Association of School Psychologists
1140 Connecticut Avenue, N.W., Suite 401
Washington, DC 20036

National Association of the Physically Handicapped
6473 Grandville Avenue
Detroit, MI 48228

National Easter Seal Society for Crippled Children and Adults
2023 W. Ogden Avenue
Chicago, IL 60612

National Federation of the Blind of California
20734C Devonshire Avenue
Chatsworth, CA 91311

National Foundation/March of Dimes
675 North First Street
San Jose, CA 95112

National Society for Autistic Children
621 Central Avenue
Albany, NY 12206

National Society for the Prevention of Blindness, Inc.
Southern California Region:
249-F E. Emerson
Orange, CA 92665
Northern California Region:
4200 California Street
San Francisco, CA 94118

North Bay Regional Center for the Developmentally Disabled
1710 Soscol Avenue
Napa, CA 94558

North Coast Regional Center for the Developmentally Disabled
413 North State Street
Ukiah, CA 95482

North L.A. County Regional Center for the Developmentally Disabled
14602 Victory Blvd.
Van Nuys, CA 91411

Office of Child Nutrition Services
Department of Education
721 Capitol Mall
Sacramento, CA 95814

Regional Center for the Developmentally Disabled of Orange County
Central Tower, Union Bank Square
500 South Main
Orange, CA 92668

Regional Center for the Developmentally Disabled of the East Bay
2201 Broadway
Oakland, CA 94612

San Andreas Regional Center for the Developmentally Disabled
1270 Winchester Blvd.
P.O. Box 50002
San Jose, CA 95150

San Diego Regional Center for the Developmentally Disabled
8001 Frost Street
San Diego, CA 92123

San Gabriel Valley Regional Center for the Developmentally Disabled
1373 East Center Court Drive
Covina, CA 91724

South Central Los Angeles Regional Center for the Developmentally Disabled
2160 West Adams Blvd.
Los Angeles, CA 90018

Tri-Counties Regional Center for the Developmentally Disabled
222 East Canon Perdido
Santa Barbara, CA 92101

U.S. Government Printing Office
Superintendent of Documents
Washington, DC 20402

United Cerebral Palsy Association
321 West 44th Street
New York, NY 10036

University Affiliated Programs
4570 Lexington Avenue
Los Angeles, CA 90027

Valley Mountain Regional Center for the Developmentally Disabled
850 North Hunter Street
Stockton, CA 95202

Western Division, National Federation of the Blind
P.O. Box 1522
Lancaster, CA 93534

Western Regional Center for the Developmentally Disabled
11300 South La Cienega Blvd., Suite 400
Inglewood, CA 90304

GLOSSARY

Anti-convulsant: A drug administered to control involuntary body movements.

Athetosis: Slow, involuntary writhing and repeated movements of hands and feet, caused by damage to the brain.

Autism: Absorption in self-centered mental activity (fantasies, delusions) when accompanied by a marked withdrawal from reality (self-isolation); cause, unknown.

Bite Reflex: A sudden involuntary or uncontrolled snapping of the jaws in closure.

Cerebral Palsy: A motor disorder or a disorganization of motor control resulting from damage to the central nervous system, usually appearing before the age of three.

Cleft Palate: A fissure of the roof of the mouth present from birth; a physical restriction which precludes the formation of a vacuum that is needed for sucking.

Congenital Defects: Defects which have existed since birth.

Dental Malformation: The result of the teeth being poorly positioned.

Dietitian: A skilled professional trained to provide advice on normal and therapeutic diets and on the application of nutrition principles for the promotion of good health.

Down's Syndrome: A condition of chromosomal abnormality usually associated with moderate to severe mental retardation; also known as mongolism.

Drool: To permit saliva to run uncontrolled from the mouth.

Finger Feed: To feed with the fingers as opposed to spoons, forks, etc.

Finger-thumb Apposition: Pincer grasp; to grasp with finger and thumb.

Gag Reflex: The action of attempting to retch or vomit.

Grasp Reflex: The natural or involuntary closing of the hand over some object.

Hemiplegia: Refers to limb paralysis on one side of the body.

Hyperactivity: Abnormally increased physical activity.

Hypersensitive: Having excessive sensitivity to a substance or stimulus.

Hypertonic: Excessive tone in a muscle, such as increased rigidity and resistance to being stretched.

Hypotonic: A condition of diminished muscle tone, general weakness, and floppiness.

Larynx: An organ that guards the entrance to the trachea and functions secondarily as the organ of the voice; the upper part of the windpipe, located at the top of the trachea.

Mainstreaming: Putting handicapped children into the regular classroom wherever possible, i.e., putting them into the mainstream.

Malocclusion: The position of the teeth when they do not match up or come together properly for chewing purposes.

Muscular Dystrophy: A crippling disease that limits physical activity; a decreasing level of muscle tone.

Nerve Transmissions: Impulses sent along nerve fibers to various parts of the body (central nervous system).

Neurological Disorders: A disorder of the nervous system.

Nutrient: Nourishing; a substance assimilated by the body for tissue build-up and energy.

Obesity: The state of being overweight; an excess weight condition of 20 percent or more over the normal range.

Occupational Therapist: A person trained to evaluate and treat persons who have difficulty in purposeful, functional tasks.

Oral Cavity: Pertaining to the mouth.

Oral Defensiveness: A defensiveness or sensitivity to touch in the area of the mouth.

Oral-Motor Development: The sensory and motor integration for the movement of the mouth, tongue, and lips to function in eating and speech.

Orthopedically Handicapped: A handicap relating to the arms and legs.

Palomental Reflex: The formation of a fist when an object is placed in the palm of the hand.

Palsy: A condition marked by an uncontrollable tremor of the body or a part of the body.

Paralysis: The loss of muscular control due to interference within the nervous system.

Paraplegia: Paralysis of both lower extremities, usually including the lower portion of the trunk, occasionally also the upper portion.

Peripheral Flushing: Blood rushing to the surface, causing redness of the skin and a burning sensation under the skin.

Phenylketonuria: A cause of a very severe form of mental deficiency (due to an infant's inability to metabolize the animo acid phenylalanine); if diagnosed early and given a diet low in phenylalanine, the infant will have normal mentality.

Physical Therapist: A person trained in the treatment of disorders by physical and mechanical means.

Prone: The position of lying face-downward.

Psychotropic: Acting on the mind; mind controlling.

Quadriplegia: Paralysis of the four limbs of the body.

Reflex: An involuntary movement.

Regurgitation: The loss of liquid and/or food by the return of food already swallowed and present in the stomach.

Rooting Reflex: A natural reflex action, an infant's turning of the head toward a food source; a food-seeking movement, one which appears to prepare the infant for feeding.

Salivary Activity: Activity of the salivary glands (which are situated near and open into the mouth) producing saliva to moisten the mouth and food.

Spasticity: An increase over the normal tone of a muscle, with heightened deep tendon reflex.

Spina Bifida: A congenital malformation consisting of a defect in the posterior wall of the spinal canal, usually in the lumbar region.

Steroids: Medications used in anti-inflammatory therapy.

Suck: To draw in the mouth by establishing a partial vacuum; i.e., to draw into the mouth through a suction force produced by movements of the lips and tongue.

Suckling: An early feeding behavior of nursing at the breast.

Supine: The position of lying on the back with the face turned upward.

Syndrome: A group of symptoms occurring together regularly, and thus constituting a disease to which some particular name is given.

Tactile: Relating to the sense of touch.

Tactilely Defensive: Ultra-sensitive to touch.

Tongue Thrust: A forceful protrusion of the tongue from the mouth; the tongue pushes the food forward, not back.

Toxicity: An abnormal condition resulting from an overdose of a substance.

Voluntary Muscle Control: Movement of any muscle by will rather than by reflex.

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